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ABSTRACT

The guide updates one section of a previously written manual on speech software for blind and visually impaired persons. The guide presents reviews of 14 specific commercially available software programs. Software is critiqued for IBM (Enhanced PC Talking Program, Soft Vert, Screen-Talk Pro, Artic Vision, Freedom 1, and Prompt-Writer), Apple (ProWORDS, BEX, TEXTALKER, WORD-TALK, ProTERM, FILE-TALK and SlotBuster II), and Commodore (64 Reader). The guide also mentions such programs as Rapsheet, Sensible Speller, and Apple Presents Apple. A list of magazines for and by blind computer users is also provided. (CL)

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The Second Beginner's Guide to Personal Computers for the Blind and Visually Impaired

2nd Edition

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The Second Beginner's Guide to Personal Computers for the Blind and Visually Impaired

2nd Edition

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PREFACE

The original SECOND BEGINNER'S GUIDE was published in October of 1984. Speech software was just getting started; it's been moving on fast-forward ever since. As you know, as we know, it's hard to keep up.

If you ordered the first edition of this book, you'll remember it was larger. We decided to update only the Buyer's Guide, or Chapter 5, since the rest of the information remains reasonably current. In other words, we couldn't bear to redo the whole thing.

Jesse Kaysen of Raised Dot Computing once described our computer books so accurately that it could be called truth rather than opinion. She said our books are like a snapshot—frozen in time. A motion picture they are not. This book is aging as we speak, but it remains a record of what was for one single moment in the history of speech software. There are magazines that keep up with the flow rather nicely, and they are listed in the back of the book.

There is danger in taking a snapshot because software development is not static, especially speech software. So, do yourself and the software developers a favor: Call and inquire about recent changes to their programs, and make your own moving picture.

—Diane L. Croft
Editor

ACKNOWLEDGMENTS

One hundred doctors asked me if I were stranded on a deserted island with the task of revising THE SECOND BEGINNER'S GUIDE, would I prefer Advil, Tylenol, Bufferin, or Bayer Aspirin and the answer is, of course, one large bottle of each, thank you, and could you please ask Maggie Thatcher to float a bottle of her best Boodles gin in my direction just to make sure the job gets done.

Uninspired in my solitude, I set sail one fine morning on a makeshift raft held afloat by five empty bottles of temporary sanity. I was not prepared for stormy waters. Someone should have told a landlocked pilgrim from Ohio that there is no directory assistance on the high seas.

Adrift and foundering, when what should appear—looming on the horizon—but a magnificant seafaring vessel with white billowing sails expertly navigated by Curtis Chong. Moving alongside, First Mate, Al Gayzagian, tossed me a life preserver like a ring around a bottle. Hearing my sad tale, these two weathered seamen pulled out their logs, which contained the history of navigation in rough waters, and proceeded to accomplish the foreboding task of revising this book.

While I warmed my aching bones on deck, Messrs. Gayzagian and Chong sent messages magically through the air, on machines that spoke like drones, to seamen and women everywhere.

But no sooner had I applied a second coat of Coppertone, then I found myself singing on the deck of the Titanic. A teletype arrived from a Daveed Mandell of Berkeley, Calif., with a long list originally addressed "Dear Santa Claus," which now read "Dear NBP: I would like to see something about Rapsheet, ProTERM, BEX, the SlotBuster II and TEXTALKER, oh yeah, and then there's Apple Presents Apple and Sensible Speller, and all the speech access software for the IBM..." Imagine what his parents go through at Christmas.

There were a few other people on board. Dick Gage has been a friend of NBP for many years, and continues to stoke the furnace when the wind dies down. Another good friend, Bob Gildea, proceeded in his customary style to scrutinize every aspect of the book from every angle—from every angle of a prism, that is. "Want to take a short walk down the plank, Bob?" Olga Espinola stopped by to say her review was already out of date, to which I responded mind your own business, or take a walk with Bob. Things got nasty and Olga threatened to lock me in the brig with a computer and speech sofware.

Others who responded to my S.O.S. include, in order of appearance, Joe Lazzaro, Jim Turri, Steve Jacobson, Sue Melrose, Deborah Norling, Peter Scialli, Michael May, Neal Ewers, Brian Charlson, Don Breda, Larry Skutchan, Holly Turri, and Jim Wantz. Together with the rest of the crew, they changed the course of history and got this book written.

A special salute to Carl de Suze who read these words, Ray Fournier and Tom Lehman who recorded these words, Eileen Curran and Mandy Smith who brailled these words, Joan Hansen who corrected these words, and Paul Martin who will ship these words to you.

For myself, I fear the time has come to finally get acquainted with computers. I happened to mention to Al Gayzagian one afternoon, that I had been trying for days to reach Jeff Weiss by phone, to get a copy of an article that appeared in his publication, APPLE TALK. Nonchalantly, Al walked over to his disk library, pulled down APPLE TALK, slipped the disk into his Apple, read through the table of contents by pressing one key, pressed "P" for print, and handed me a copy in my preferred medium, print. My god, the telephone is obsolete. It's time to coax my husband into showing me around his IBM XT. I wonder what XT means?

The Enhanced PC Talking Program...and now VOS

by Olga Espinola & Curtis Chong

GENERAL DESCRIPTION

The Enhanced PC Talking Program has been enhanced again to a 3.5 version called VOS, or Verbal Operating System, which sells for $550. To say that VOS works with a variety of hardware configurations is to understate the case: To date, VOS works on over 100 PC-compatible micros and, through a variety of emulation software/hardware systems running on these micros, can communicate with a number of mainframes, such as Burroughs, Honeywell, and IBM.

Attach a compatible speech synthesizer to this flexible program, and you have speech access to 95% of the software available for the IBM PC, including such commercial programs as Lotus, MultiMate, WordStar, WordPerfect, and PerfectWriter, to name a few. The disk is not copy-protected, which means you can make copies that boot on different systems.

This review will cover the basic talking program with a description of the enhancements in the latest version, VOS.

SPEECH

Once the Enhanced PC Talking Program has been loaded into memory (a simple process), one keystroke will configure it for either the DECtalk or Votrax PSS speech synthesizers. The program will automatically detect the use of an internal speech card, such as the SynPhonix 200 or Votalker IB. Or, in default mode, it is configured for the

Echo synthesizer or the Votrax Type 'N Talk.

The Enhanced PC Talking Program allows speech control, depending on your choice of speech synthesizer. Speech functions are controlled through the software, although it is possible to change some functions outside the program. The nice thing about the Enhanced PC Talking Program is that you do not have to configure it to work with a specific synthesizer, as you do with most other programs, so that you can use it with your Echo, for example, and then with your VersaBraille, without having to reconfigure it for a different output device.

REVIEW FEATURES

This program offers something that no other program has to the same degree: interactiveness. In order to explain this concept, let's look first at the way other screen review programs work.

Developers who write screen review software follow the general philosophy that blind people need to be able to move around the screen (to review the contents) without any danger of changing the text. The concept is referred to as "passive" (rather than interactive) mode. This means that the screen is "frozen" and, in such a state, you can move anywhere on the screen, having lines, words, or sections spoken without any fear of changing text. The drawback, however, is that should an error be discovered while reviewing text, you cannot correct it on the spot. Remember, in "frozen" or "passive" mode, no text can be changed, it can only be "reviewed."

This concept also means that there are two cursors to keep track of: the "audio" cursor (for reading) and the "visual" cursor (for writing). And here is where the difficulty begins. While you review the screen's contents, using the audio cursor, the screen is frozen. If you want to make a change, you must get out of frozen mode and back to the visual or "write" cursor, which may be miles (well, we exaggerate a bit) away from the position of the error, and retrace your steps to the error. Then you can make the correction. But, to confirm that the correction was made, you must activate the frozen mode again and find the place where the error had been made and check it. (Editor's Note: Programs that offer cursor routing and macros make this less cumbersome.)

The Enhanced PC Talking Program bypasses all of these keyboard acrobatics by allowing you total control over the "visual" cursor at all times; there is no separate "read" cursor. You can choose to freeze the screen or not, but at all times you will be aware of the exact position of the visual cursor. The cursor you move with the arrow keys is the same one your boss is looking at, and the same one the gal at the next desk is moving.

Lines of text, single characters, and words can be spoken. You can choose to read windows of the screen, too. A window is a portion of the screen that you define and can section off for review. The word "window" is actually a good one for describing what are really "panes" of the screen. In your house, a window might be divided into four panes, or six panes, or simply exist as one big pane. The same is true when working with windows of information on a screen.

Other review features of this program allow you to read text that is highlighted, blinking, in reverse video, or underlined. This is an extremely important feature for programmers. You can choose to hear punctuation and capitalization, spelling, and color contrasts, as well as sixteen colors. All of these features can be toggled (computerese for turned on and off) at will at any time. In fact, the Enhanced PC Talking Program offers access to more functions with a single keystroke than any other speech access program, before macros are added.

There are no menus to clutter up the process of selecting the reading modes. Keystroke echo can even be toggled, and there is an option which allows for words to be typed silently and only voiced when a space or punctuation mark is struck. This is a handy feature for fast typists.

The ability to change so many parameters easily and quickly is probably the program's greatest strength. In addition, it is small, taking approximately 6.5K of memory, which makes it usable with even a 64K computer. Plus, it's very easy to get up and running.

The program is also very responsive. As the cursor is moved, using the arrow keys, characters are spoken without delay. If you want to find a particular character on the screen, it can be done using the "character search" function. Virtually any character that you can type on the keyboard can be searched for, including control characters.

SPECIAL FEATURES

The latest version, VOS, is really a group of related programs. The old friend, Enhanced PC Talking Program, makes up the central focus of the system, along with two other programs, PROFILE and VMACROS. It works, as always, with MS-DOS or PC-DOS 2.1 or greater, although some new features require DOS 3.0 or greater.

Before we discuss these programs, let's define the term "macro." A "macro" is a facility, a tool, that allows you to choose a key and define it to perform any number of tasks. For example, suppose you have a series of commands that you perform all the time: "Hello...my name is...my address is..." etc. Rather than typing these out each time, you simply select one key, say ALT H, to perform these functions automatically. You hit that one key and the series of commands that you have selected will be performed. This is particularly useful when completing forms.

Programs that have this feature are called macro key programs; two very popular commercial macro key programs are NEWKEY and PROKEY. Not all speech programs work with these off-the-shelf macros, but VOS does. And the developer, Ron Hutchinson, has taken the concept a step or two further: VOS performs macro-writing functions with additional features.

VMACROS (part of VOS) is a spin-off of programs like NEWKEY and PROKEY. As described earlier, these are macro programs which allow you to define one keystroke to perform a number of routine commands. But VMACROS differs from other macro key programs in that no execution takes place during definition. Generally, when you define a series of commands and designate one key to perform them, the execution takes place at the time of definition; with VMACROS you can say, "Don't do this now, save it for later."

Another exciting aspect of the macro-writing ability of VOS is that you can save the contents of the screen, or part of the screen, as a macro. You can save more than 225 macros in a set, and you can merge macros, too. Again, all of these programs are interactive and the screen never needs to be locked in order to know what's going on or where the cursor is.

A third aspect of VOS that differs from programs like NEWKEY is that VOS talks all the way through. When you create a macro with NEWKEY, it doesn't "say" what's going on while you are creating it; VOS does. In fact, VOS is the only macro program where you can hear the menus spoken.

PROFILE (another part of VOS) is a program that allows you to customize the commands used with the talking program. These user-defined settings can be saved in a file and called up at any time. For example, you may decide to have punctuation "off," highlight read "on," and spelling "on" when using MultiMate, and save these settings in a file. You may decide to have other settings when using Lotus, and save them in a file. Then you can call up the various settings, even from within the application, and not just at the DOS level.

Another new program that now comes with VOS is FINDER. FINDER allows you to search for any text string (a string of more than one character), including control characters. Although some people find FINDER to be slower than the search function in other screen review programs, it's still a tremendous help in finding text strings whose specific location on the screen may not be known.

A final special feature of VOS is a Help facility. It's an on-line reference card of sorts, available to you at any time, whether you're working at the DOS level or during an application. The Tutor facility will present a menu of choices of help topics. Once the information is absorbed, you can return to the point where you left off without disturbing the text.

The logical arrangement of commands in the talking program makes it easy to learn and retain. Nor does an update of the program cause you to tremble for fear of having to relearn commands. Although updates involve new commands, the familiar ones are still in place. This is an important feature since some adaptive software houses change command structures with major updates.

And a significant improvement in VOS is its ability to identify and read status lines, such as in Lotus 1-2-3, and its ability to determine the status of certain keys, such as CAPS LOCK, NUM LOCK, INSERT, and DELETE.

DISADVANTAGES

It's difficult to find fault with VOS because Mr. Hutchinson is constantly improving the product, based on consumer feedback. There are a couple of areas that could be improved.

One feature that is sorely lacking is the ability to read columns line by line. In other words, although it is possible to read columns with this program, you must read the whole column at once. There are ways around this that allow you to read each row, but it is awkward at best.

Second, the documentation needs improvement. The program comes bundled in a protective zippered, three-ring notebook binder with the main program disk and inkprint and disk-based copies of the owner's manual. A braille manual is also available for $10. There is a cassette tutorial, but it will need to be revised to include all the features of VOS. Basically, the documentation is the weakest link. With constant improvements being made to the program, Mr. Hutchinson finds it difficult to keep up with improved documentation. To his credit, he is available by phone, 24 hours a day, although a 3 a.m. phone call inquiring about the location of the disk drive would probably not be appreciated.

A third problem is the key sequencing for editing in VMACROS. It's awkward, though logical.

By the time you read this review, some or all of these problems may be resolved. Before making a decision about this fine program, you should contact the developer about the latest improvements.

FINAL COMMENTS

The Enhanced PC Talking Program, and now VOS, is the program of choice for more than 1800 blind computer users. Those who sing its praises the loudest laud its interactiveness, its incredible adaptability to off-the-shelf software, and its ability to handle any serial speech synthesizer on the market.

Describing the program, one ardent user says, "It's the closest approximation to having my eyes on the screen."

Soft Vert

by Joe Lazzaro & Curtis Chong

GENERAL DESCRIPTION

Soft Vert, a talking screen access system for the IBM PC and PC compatibles, is manufactured by Telesensory Systems, Inc., the world's largest manufacturer of electronic products for the visually impaired. It retails for $395, making it one of the lower-priced packages on the market. Soft Vert comes on a standard MS-DOS floppy disk, with printed, cassette, and disk copies of the owner's manual, and a braille reference card.

Once you mate Soft Vert with a voice synthesizer, your personal computer will speak all text typed into its keyboard or displayed on its video screen, giving you speech access to a great deal of off-the-shelf IBM PC application software. According to TSI, Soft Vert is compatible with such popular programs as WordStar, dBASE, rBASE, PFS:Write, PFS:File, and PFS:Report, as well as most IBM PC word processors, terminal emulators, databases, spreadsheets, programming languages, and other non-graphic application programs.

SPEECH

Soft Vert supports a wide variety of speech synthesizers—both internal and external—including the SynPhonix 200 Speech Card, Votalker IB, Type 'N Talk, both versions of the Votrax PSS system, Echo GP and PC, DECtalk, and most other text-to-speech synthesizers currently on the market, with the exception of Speech Plus's Calltext. In other words, you are not "locked in" to any particular speech synthesizer.

The speech rate and pitch are controlled using the function keys in Soft Vert's Review Mode. For example, the F3 key lowers the speech rate, the F4 key increases the speech rate, F5 lowers the pitch, and F6 raises the pitch. However, these control features will only work if the speech synthesizer itself supports these commands, and if Soft Vert has support for that specific synthesizer.

The program allows you to silence speech at any time, with the exception of the Type 'N Talk speech synthesizer. We also observed that Soft Vert is not currently able to take advantage of the ability of the SynPhonix Speech Card to vary the tone or filtering characteristics of the synthetic speech, although the tone can be set before running Soft Vert.

We should mention the way Soft Vert functions with the internal speech boards: the SynPhonix 200 and Votalker IB. Other screen review programs function directly with the SONIX and TTS programs from Artic Technologies. Soft Vert does not. If you want to use Soft Vert with one of the internal speech boards, you must purchase a program called PORTTALK from Artic Technologies or Votrax, Inc., in addition to the SONIX and TTS programs which are sold with the internal speech cards.

REVIEW FEATURES

Soft Vert contains the highest number of features of any screen review system on the market today, including one of the most versatile and powerful Review Modes. Soft Vert easily lets you read and re-read the screen character by character, word by word, line by line, or screen by screen. This is accomplished by simply typing a Control O from the IBM keyboard. In fact, most Soft Vert functions can be executed from the home keys, making it unnecessary to lift your hands off the keyboard to perform such simple tasks as entering Review Mode, finding the location of the system cursor, reading the current line, and so forth.

Soft Vert gives you considerable flexibility in determining how you want your computer to speak. You can define keyboard input to be spoken as whole words or letter by letter. Numbers can be pronounced as words or digits; punctuation marks pronounced or not pronounced; capital letter indication on or off; unusual character combinations spelled or spoken; spaces between words spoken or not spoken; and PC screen highlighting ignored or spoken.

Here is a listing of Soft Vert's review commands with a brief description of each:

- "A" verbalizes the location of the audio cursor—the Soft Vert Announcer—which moves independently of the DOS cursor. There is also a function to move the writing cursor to the audio cursor, which is often necessary for word processing.

- "B" moves the audio cursor to the bottom right of the IBM screen.

- "C" enables you to read and re-read the current character under the Announcer. If the key is pressed twice, the mnemonic for that character is spoken, for example: E=Echo, D=Delta, etc. This is very helpful when trying to identify letters that sound alike, e.g., "v" and "b" or "d" and "e."

- "D" lets you read and re-read the current word under the Announcer, or audio cursor.

- "E" lets you read the current column entry. Unlike the read-forward-by-word command, this command will read the entire column field and will not be interrupted by spaces in the column entry, such as in the word "New Mexico."

There are also commands to set column settings and then store them away. Using these commands, you can have a column format for every application program in your disk library. You can even erase old formats and lock new ones away for later use.

- "F" lets you read forward one word at a time. With this command, you can read a whole line at a time, or a whole screen at a time.
- "G" lets you read uninterrupted from any starting point on the screen. If you want to stop the reading process, just strike the "S" key.
- "H" works like a help button while in Review Mode. By hitting the Help key, and then any other key, the function of the key is verbalized. This is a nondestructive way to remember what tasks certain keys accomplish.
- "I" lets you move up the IBM screen one whole line at a time. By combining this keystroke with a number, successive lines can be skipped.
- "K" reads the current line of text at the position of the DOS or "visual" cursor.
- "S" reads backward word by word; this is the opposite of the "F" command.
- "T" moves the audio cursor to the top left of the video screen. Once there, you can read or re-read that line, or move to any position on the screen.
- "V" reads forward character by character while in Review Mode. You can use this command to spell words or whole lines of text.
- "X" reads backward character by character.
- "Y" reads from the current Announcer (Soft Vert's audio cursor) to the end of the current screen line. This is useful for reading selected portions of text, such as a disk directory or certain file specifications.

There are several ways to review the contents of the screen without going into Review Mode. If the software you are using allows you to move the cursor with the cursor keys, you will hear the text at the new cursor location by using the cursor pad. Press Control-Spacebar, followed by the line number of the text you want to hear, and the line will be spoken. Press Control-F to hear the letter the cursor is on. If you press Control-F again, you will hear the line and column number of that character. Control-T will speak the entire line the cursor is on, and Control-G will speak the word at the cursor location.

Soft Vert has the ability to define up to ten columns in a single screen and save them for later review. Columns cannot be thought of as windows, as in other screen review programs; rather, columns in Soft Vert can overlap, and there is nothing in the program itself that prevents you from reading data outside the columns. A column can be from two to twenty-five lines high and from one to eighty characters wide. You can save up to ten different screens, each with its own unique set of up to ten columns.

Soft Vert comes with a character search function that can be invoked from Review Mode. Control characters can be included in the search string, and the asterisk can be used as a wild card character. Soft Vert remembers the search string between successive searches, thereby eliminating the need to key a string more than once.

The search is, however, time-consuming, requiring more than five seconds per screen. This compares unfavorably with other screen review programs, such as Screen-Talk-PRO and Artic Vision, which can search the screen almost instantaneously—certainly in under half a second. TSI is aware of this problem and has indicated that improvements are being made to increase the speed to under one second. By the time you read this review, the change may already be in effect. In all fairness, you should contact TSI and inquire about the situation.

SPECIAL FEATURES

Soft Vert will work with a variety of macro key packages, as described in the previous article, such as NEWKEY, PROKEY, and KEYWORKS. In the case of spreadsheets, such as Lotus 1-2-3, the use of Soft Vert with a macro key package greatly simplifies the use of spreadsheets. Soft Vert also comes equipped with a Forms Processing feature which makes it easier to read certain formatted screens.

The Soft Vert dictionary permits any word or control character to be pronounced differently. For example, the Echo Speech unit pronounces the word "digit" as "die git." You can inform Soft Vert that "digit" is to be pronounced "didgit." Now, whenever "digit" is typed, reviewed, or displayed from the file, the proper pronunciation is spoken. This feature is extremely useful when used with the lower-priced speech systems.

A unique and handy feature of Soft Vert is its ability to spell or speak unusual letter combinations. Let's say, for example, that you incorrectly typed in the phrase,

I am nnot a ggood speller.

Soft Vert would automatically speak or spell (your choice) "nnot" and "ggood." Likewise, Soft Vert will indicate errors in spacing.

Speaking numbers as words is another nice feature of Soft Vert. Other screen review programs would take numbers like "5,000" and say "five comma zero." Not so with Soft Vert; it would say, "five thousand." This is extremely handy if you are reading text that has a lot of numbers and punctuation characters mixed together. No other program, to date, has this capability.

DISADVANTAGES

The enormous flexibility of review offered by Soft Vert comes at a price: memory. According to TSI, you should assume that Soft Vert requires 64K of memory, thus using a significant chunk of user memory in a 256K computer. If you were to run Soft Vert on an IBM PC with less than 256K—and we wouldn't recommend it—you would have almost no memory left for application programs. It is best to run Soft Vert on a computer with as much memory as you can afford.

A second problem is overall responsiveness and speed. The first delay you notice is when you enter Review Mode. This delay occurs because Soft Vert must take time to copy the contents of the screen into memory. If the screen to be scanned contains little data, e.g., two or three lines, Review Mode is entered in less than a second. But if all twenty-five lines of the screen must be read, it can take as long as two seconds. This can be frustrating to the user who is frequently popping in and out of Review Mode.

Moving the system cursor with the arrow keys also incurs a certain amount of delay. This is particularly due to the fact that Soft Vert must wait a period of time for the cursor to arrive at its final destination. Also, certain speech synthesizers, notably the Votrax PSS and DECtalk, are themselves rather unresponsive, which adds to the overall delay when the cursor is moved over a lot of characters.

Finally, as mentioned previously, a character search takes longer than with some other screen review programs. TSI has indicated that they are working on this problem, and hope to have both the review and search functions down to under one second. Contact the company about their progress.

FINAL COMMENTS

As is true with some other screen review programs, Soft Vert is not a program you can just plug in and start working with immediately. Due to the program's level of power and sophistication, there is a great deal to learn before you can utilize its full potential. If you read the documentation thoroughly and carefully—and it's essential that you do—the program is not difficult to use, although the novice will be challenged. Once you have learned to use the on-line help facility, you do not need to memorize a lot of complicated command sequences.

Soft Vert is extremely versatile and powerful, containing the highest number of features of any screen review system on the market today. The sophistication of the system chews up some memory and speed, which may or may not be a problem, depending on your computer's memory capability and how it's being used. The program is well supported by Telesensory Systems, Inc., which has a large national sales and support staff to handle most problems.

Artic Vision

by Jim Turri & Curtis Chong

GENERAL DESCRIPTION

Artic Vision, marketed by Artic Technologies, is a relatively new program on the market—although a close examination of its features would make you think they've been in the screen review business for some time. Priced at $395, not including the speech card, Artic Vision is an economical screen reading program for the IBM PC and PC compatibles.

Documentation comes on a program disk, written with synthesized reading in mind, which means that occasional extra spacing and punctuation is used to enhance clarity. Each update comes with updated files, a key reference chart, and index. Print documentation accompanies the package containing the SynPhonix 200 Speech Card. A braille reference manual for the software is available for $20.

SPEECH

Unlike any other screen review program, Artic Vision is designed to work specifically with the SynPhonix 200 Speech Card, which is also marketed by Artic Technologies. It was not intended to work with any other synthetic speech device and, therefore, the program has a great deal of control over the speech it generates. (By the way, it has been determined that Artic Vision will work with the Votalker IB speech board, although the speech sounds slightly different.)

The SynPhonix 200 Speech Card has a tiny speaker mounted on the board and a mini phone external speaker jack and volume control mounted on the rear panel. The external speaker is an attractive wood grain cabinet, about four inches square, and can be conveniently perched next to the computer monitor. The jack will accept a patch cord allowing you to send your speech sounds to a cassette recorder. This is convenient for taping cassette copies of the disk manuals that often come with public domain software.

The voice response you get while typing is immediate, and the speech keeps up with you no matter how fast you type. If you prefer, you can totally silence keyboard input. Flexible user-defined functions (over thirty of them) let you read what you want and silence unwanted text, often interactively.

Artic Vision is the only screen review system with five different voice channels: video, review, keyboard, com, and printer. Instead of using one voice to speak all functions, the program can be adjusted to have five different voices, each with a different pitch, volume, rate, and tone. For example, video voice (speaking the material on the screen) can be set for a moderate rate and pitch, while keyboard input (the material being typed in) can be set for a fast rate and high pitch, and so forth. At the highest rate of speed and pitch, you could probably review the contents of a screen faster than a sighted person could read it on the monitor.

One feature that is extremely helpful is the use of tone and pitch to indicate the presence of uppercase text. And the best part is that there are no perceptible delays when varying speech characteristics in the middle of speech output.

REVIEW FEATURES

The most outstanding feature of the Artic Vision program is its ability to respond almost instantaneously to commands from the keyboard—that is, its almost total lack of inertia. The vendor says this responsiveness is due to the fact that the program is written in Assembler. It is certainly true that Artic Vision is the most responsive screen review program on the market. For example, we instructed Artic Vision to scan the entire screen for a character string we knew wasn't there: The scan was completed in an instant.

The program works in two modes: Review Mode and Aptrack, short for application tracking. Review Mode is extremely quick and flexible. You can move backward and forward a character, word, line, sentence, or paragraph. You can search for any text string, including control characters. You can read highlighted, blinking, color, or reverse video text. Under the right circumstances, Artic Vision can route the application cursor to the location of the reviewing cursor.

You can instruct the program to read any one of ten pre-defined windows on the screen. You can personally define nine of these windows; the tenth window is permanently fixed to read the entire screen. The contents of any one of the ten windows can be read interactively or from Review Mode. To define a window, you must enter Review Mode and select a window to be active. Four coordinates must be entered: the top line of the window, the left edge of the window, the bottom line of the window, and the rightmost column of the window. Once these coordinates have been entered, they can be saved on a disk for later retrieval. If you should forget the dimensions of a given window, you can enter a query command in Review Mode and refresh your memory.

You can move back and forth between Review Mode and Aptrack by pressing the Scroll Lock key. A host of reading functions are available in Aptrack Mode, which means you don't have to switch to Review Mode every time you want to access certain limited portions of the screen. Review features available in Aptrack Mode are:

- Numberpad 5 reads the current line or text unit;
- Control minus spells the current word;
- Control plus announces the cursor position;
- Alt plus reads the current character;
- Control five reads to the end of the line;
- Alt slash reads reverse video;
- Alt semicolon reads blinking text;
- Alt apostrophe announces the current ASCII code;
- Tab key executes the function and then announces cursor position;
- Alt coma reads highlighted text;
- Alt backslash reads underlined text;
- Alt period reads normal text.

In addition, there is a find and route feature where—with a single user-definable keystroke—you can search for a specific text string and, if found, route the application cursor to that string.

You can also move around the screen in Aptrack Mode by using the up and down arrow keys to move, of course, up and down the screen, or the right and left arrow keys to move forward and backward word by word or letter by letter.

SPECIAL FEATURES

The Speech Autoclear function is very nice. If you are reading a line and decide to move to another line, this feature stops the speech as soon as you touch the arrow key, and resumes at the beginning of the new line you have moved to. This feature can be turned off, but you'll wonder how you ever got along without it.

Artic Vision makes extensive use of the beeper built into the IBM PC. Among other things, the beeper tells you when a repetitive string of characters is encountered, when you are entering and leaving Review Mode, when the cursor is moving up or down the screen, and when certain modes are being turned off.

The IBM beeper gives further clues about the screen layout. Each line on the screen has its own pitched short click. As you move from the bottom of the screen to the top, the pitch goes up like the sound of a glass quickly being filled. Although no speech program can read graphics, this program tells you when one appears in the program, and beeps when you run into it. The program can also be set up to use either the beeper, a verbal prompt, or both to let you know when the Caps Lock or Num Lock keys are being turned on or off.

"Fuzzy reading zones" make this program special. A "zone" can be set for a character, word, line, sentence, or paragraph. In Review

Mode, you set the zone using the even-numbered function keys: f2 for paragraph, f4 for sentence, and so on. Now, by hitting the minus key, you move up the screen one "zone" at a time; by hitting the plus key, you progress down the screen by zone. Keys can be held down to jump quickly around the screen.

DISADVANTAGES

Most Artic Vision functions require two hands to enter commands from the keyboard. Also, many functions require you to depress the ALT key, which sometimes conflicts with certain commands inherent in some application programs. And, a few commands require you to lift your right hand from the home keys to depress keys on the left side of the keyboard.

Although some review functions are available outside Review Mode, Artic Vision does not yet have a feature to permit you to read individual lines on the screen outside Review Mode, without first having to set up pre-defined windows for that line.

FINAL COMMENTS

Artic Vision is one of the most inertia-free screen review programs on the market. It handles like an expensive sports car rather than a truck. Since it works so closely with the SynPhonix 200 Speech Card, there is a great deal of control over the speech it generates. Virtually all functions can be interrupted, including input from the keyboard. Artic Technologies should be complimented for this feature, as it will certainly maximize the productivity of the experienced computer user. The program is flexible, quick, and relatively easy to learn. The company is developing a self-instructional training course to take the computer novice through the program step by step. The program keeps getting better and the latest version supports key macros and has a menu bar tracker.

The company recently released Artic Business Vision, which combines the features of Artic Vision with the capabilities of reading spreadsheets. Artic Business Vision does much to overcome the difficulties of using programs like Lotus 1-2-3 with speech. It sells for $495, but current users of Artic Vision can purchase the upgrade for $100.

An even more exciting development is a new Artic card ($375) for the Toshiba 1100+ laptop PC-compatible computer ($1995). The special card fits in the modem slot and generates speech for this 12-pound, battery-powered computer with 640K of memory and two, 3½-inch drives. Sitting on my sofa the other night, I accessed CompuServe with my Toshiba and battery-powered modem, and the speech was crisp and clear. What fun!

Screen-Talk Pro

by Steve Jacobson & Curtis Chong

GENERAL DESCRIPTION

Screen-Talk Pro is a speech software package for the IBM PC and compatibles, and a product of Computer Aids Corporation. For $395, you receive a flexible screen-reading program that can be customized to meet your personal needs, and ProKey, a powerful off-the-shelf macro program from Rosesoft. Although you can purchase Screen-Talk separately for $250, the program depends heavily on keyboard macros to provide speech functions interactively.

Screen-Talk Pro comes on two floppy disks, and the documentation is available in print, on audio tape, and on diskette. The manual also contains information about ProKey, the keyboard macro program that accompanies Screen-Talk and turns it into a full-function screen-reading program.

SPEECH

You can use a number of speech output devices with Screen-Talk Pro, including the Echo, Votrax PSS (versions A & B), Type 'N Talk, Votalker IB/Artic SynPhonix boards, DECtalk, Intextalker, and the Braid synthesizers. To run Screen-Talk Pro, you must use the program plus a configuration file. A configuration file is simply a program that is preset with specific parameters, or automatically configured for a specific purpose. For example, if you want to use Screen-Talk Pro with the Echo synthesizer on an IBM, you would need a configuration file with the appropriate parameters to make these work together. You often hear the word "default" associated with configuration programs; "default" values are those parameters—like baud rate, parity, stop bits—that are automatically preset in the program. So, if you were to change these settings, you would be changing the defaults.

Configuration programs have a menu listing which allows you to select the appropriate file to correspond to your specific output device. The configuration program that comes with Screen-Talk Pro allows you to select any of the above-mentioned voice output devices, or, if you want to use a synthesizer not listed on the menu, you can do so by supplying your own control codes. This option also lets you adjust the defaults in the configuration program to meet your specific needs. If you found, for example, that the "fast rate" was not fast enough, you could change the defaults in the configuration program to speed it up—provided, of course, that your synthesizer could actually go faster.

Speech can be stopped instantly, while in Review Mode or outside Review Mode, by pressing CTRL-X. Again, this will only work if your synthesizer is capable of being silenced. Because some application programs also use the CTRL-X key for a different purpose, you can select a different key to be the "silencing key." And in an optional Interrupt Mode, you can interrupt speech whenever a key is depressed; this feature eliminates the tendency of synthesizers to trail behind the typing.

Screen-Talk Pro allows you to select three rates of speech from Review Mode, using the F4 key (if your speech device has three or more rates). The Echo synthesizer, for example, has only two, while the Type 'N Talk is controlled by rotating a knob on the box. You can also adjust pitch by changing the default values in the configuration program. Variation of pitch is used by Screen-Talk Pro to indicate upper and lower case letters.

Another useful feature of this program allows you to send words, single characters, and control codes directly to the synthesizer without having them show up in the program. This is important because sometimes the codes that you use to change speech parameters are the same codes used in the application program to do something else. By being able to reroute these codes, past the application program directly to the synthesizer, you avoid any keyboard conflicts. As will be explained later, this has some powerful applications when using macros.

REVIEW FEATURES

To enter Review Mode, you press the ALT key. Going in and out of Review Mode in general is very quick. As usual, the arrow keys can be used to move around the screen, speaking each character that appears. When you press the CTRL key with the left or right arrow key, the cursor moves backward or forward word by word. You can read the current line, the next line, or listen to the entire screen. You can find character strings bidirectionally (which means from the cursor forward to the end, or from the beginning to the cursor). You can control how multiple occurrences of the same character are spoken, too. Foreground and background colors can be identified, and you can search in either direction for changes in color or other attributes. Although you cannot search for a specific color, what you generally want to find out is where the color or video attributes change. Using the "Attribute Search" feature, you can find messages that are blinking—not by looking specifically for blinking characters—but by looking for where the appearance of characters changes. Highlighted bars, blinking characters, and other characters which are intended to be set off can be quickly located.

Screen-Talk Pro lets you set up to ten windows, which are really nothing more than artificial edges of the screen. Windows allow you to restrict the action of many review commands to a portion of the screen. In addition, when a window is in effect, only those characters displayed on the screen within the window will be spoken. This means if you are using an application program that continually updates a portion of the screen, you can avoid having that portion spoken. In MultiMate, for instance, there is a status line which indicates the line, page, and column you are on. Every time you type a character, the status line changes. To avoid hearing the status line every time, you can create a window to exclude that line.

Screen-Talk Pro lets you pre-define sets of windows, too, which means you can recall sets of windows for specific purposes: your word processor may have one set, while your phone directory may use another. You can also read a specific part of the screen by specifying the starting line and column, along with the ending line and column, which gives you a "dynamic" window of sorts.

You can select four levels of punctuation by using F1, and four different levels of special key announcements can be independently selected as well. At the highest level, the name of nearly every key is announced, including the CTRL key. Characters can be pronounced as they are, or they can be spoken phonetically, such as "alpha" for the letter A. Many of the functions of the arrow keys are duplicated on the home keys, so you can move around in Review without lifting your hands off the keyboard.

You can choose to have nothing spoken automatically, to have keystrokes spoken, characters going to the screen spoken, or both. Although there is not a "word input" mode *per se*, Screen-Talk Pro has another feature called "Trigger Delay" which approximates this function. Word input is the ability to echo keystrokes word by word instead of letter by letter.

As mentioned in the beginning, this program gets its strength when used in conjunction with keyboard macros. Unlike other programs, Screen-Talk Pro depends on the use of macros to provide you with a minimally functional system—at least as far as operations outside of Review Mode are concerned. This is not to say that Screen-Talk Pro is not a full-featured package by itself, but inasmuch as all functions are technically performed in Review Mode, the maximum benefit of the program outside Review Mode can only be realized with a macro key package. Although other speech packages may work with macro programs, they do not link themselves with these programs in the same way.

SPECIAL FEATURES

Two features are particularly unique to Screen-Talk Pro: its ability to save configurations, and the way it works with keyboard macros. A separate program comes with Screen-Talk Pro which enables you to customize it for particular applications. You can determine how you would like virtually every Screen-Talk function to be set when working with such application programs as Lotus 1-2-3, Turbo Lightning, or WordPerfect. In other words, you can decide what the default settings for punctuation, speech rate, speak key announcing, and speech interrupt key are. And that's not all: you can have multiple sets of defaults for different applications, and you can automatically switch to a different file of default settings without "rebooting" your computer. For instance, let's say you have a file of settings for your word processor that would speak some punctuation, speak what is typed from the keyboard, set and use a window excluding the top line, and go to the fast speech rate. When you use your computer as a terminal, on the other hand, you want to use a different mix of settings, such as having characters going to the screen spoken automatically, most punctuation instead of some punctuation, a window excluding the bottom line, and a medium rate of speech.

Although Screen-Talk Pro has a full complement of screen review features, it needs a macro program to bring it to life outside Review Mode. Simple macros make the arrow keys talk, give you the position of the cursor, read the current line, read the previous line, read a specified area on the screen, switch to phonetic spelling, and so forth—all of this without the need to go into Review Mode.

The use of macros is also important in overcoming the need for cursor routing, something Screen-Talk Pro doesn't have. Cursor routing is the ability to automatically move the application cursor to the review cursor—a feature contained in programs like Artic, Freedom 1, and Soft Vert. This is almost a moot point when using macros.

Let's look at how macros simplify the process of review. If you want to read the current line—without the use of macros—you would first go into Review Mode by pressing the letter L for the current line, and then press ESCAPE to leave Review Mode. Using a macro function, you can automate this process by assigning these three steps to one key (of your choice): 1) go into Review Mode, 2) read the current line, and 3) exit Review Mode. Since Screen-Talk Pro is smart enough to know that you are executing a macro, it doesn't say "review" when entering Review Mode, nor does it say "exit" when leaving—it will simply read the current line.

Sets of macros can be saved and changed in the same way defaults can be changed. To help you get started, Screen-Talk Pro comes with several sets of macros for general use, and with more specific programs, like WordPerfect. Macros for specific applications can make them appear to have built-in speech functions. It is possible to make your word processor's "word delete" key tell you the word that is being deleted. By using Screen-Talk Pro's ability to send information directly to your synthesizer, you can—with the help of macros—have special keys announce their functions, like NUM LOCK or SCROLL LOCK. Screen-Talk Pro even has tools to facilitate the reading of spreadsheets, with the help of macros.

DISADVANTAGES

Screen-Talk Pro cannot search for specific colors or video attributes, although it can search for points on the screen where the attributes change.

A more serious disadvantage occurs when you want to create multiple files of default parameter settings. You must use the configuration program and select the values from menus; you cannot simply save the current settings to a file.

Another minor annoyance comes when you instruct the program to read entire lines: there is no way to get upper-and lower-case characters announced as such. You can get them announced by manually moving the cursor across the line.

Finally, Screen-Talk Pro forces you to use macros to perform some functions which are inherent in some other speech packages. If you are not familiar with macros or batch files, this may take some getting used to. You must use several extra programs and run them in the proper sequence when Screen-Talk Pro is started. This procedure can be automated, however, and the company provides several examples of batch files to do so. But it is not as simple as using some other programs.

FINAL COMMENTS

By making macros an integral part of its design, Screen-Talk Pro has evolved into a powerful and flexible screen-reading program for the IBM PC and compatibles. Although keyboard macros are an essential part of the program, the company provides users with a number of macro files, making it unnecessary for a beginner to write his or her own.

Yet its many features will keep the advanced computer user content for a long time. Over the past year or so, the company has beefed up its customer support by separating the marketing and technical support functions, and by offering a toll-free number. Call them and ask for their complete catalog of programs tailored for speech.

Freedom 1

by Sue Melrose

GENERAL DESCRIPTION

Over the past couple of years, incredible improvements have been made in speech access systems. Considerable new features have been added, systems are much more compatible with off-the-shelf software, and today's programs are more user-controllable, sophisticated, and yet easier to use. Freedom 1 is no exception.

Freedom 1 has gone through many changes since its first version; and now, Freedom 1, Version 3, is being introduced by the developer, Interface Systems International, for $500. This price includes the program plus documentation in print, on audio tape, or on disk. If you merely want to try the program, there is a free 30-day trial copy which comes with a manual on disk; the tape or print manual can be purchased for an extra $25, which will also be applied toward the purchase price if you buy it.

SPEECH

Freedom 1 is particularly easy to install and use with either the Votrax PSS or DECtalk. For these two synthesizers, there are commands for both setting the speech rate (without affecting the pitch), and immediately stopping the speech. Other serial and parallel synthesizers can be used, but the user must store the commands of these synthesizers in a custom version of Freedom 1; in the latest version of the program this is easier to do with the help of a Main setup menu, but still not simple for the computer novice.

REVIEW FEATURES

All commands in Freedom 1 must be issued in Review Mode. At first, this constant moving in and out of Review Mode to read the screen, make changes to the program, or send commands to your synthesizer is awkward and time-consuming. However, when you discover the enormous value of Freedom 1's keyboard macro feature, you will find you can do whatever you want in any way you want.

The real power of this program lies in the creation of keyboard macros for use with specific word processors, data managers, or other application programs. This takes some effort and experimentation by the beginner, but the rewards merit the effort. And keyboard macros are not restricted to Freedom 1 commands; they may also include the commands of the application program. For example, a single key may be defined as a talking "next word" key when used with a word processor. This would mean that this single key would invoke the following commands: enter Review Mode, find the cursor, speak the current word, exit Review Mode, and enter "next word" key. Setting up macros is as easy as giving the Macro Train command and then performing the macro just as you would like it done. The hardest part is not the setup itself, but the process of determining exactly what you want the macro to do. With some experience, this becomes second nature and gives you the freedom the program name promises. It would be nice, though, if users could have a system for sharing their setups, particularly for the more popular application programs.

Once in Review Mode, single keystrokes control the announcer for reviewing data on the screen. As you might expect, there are commands for reading from the current location to the end of the screen and for speaking the current, next, and previous character, word or line. You can ask Freedom 1 to read to the end of the sentence, too. When spelling, you can have the letters spoken as letters, or phonetically, like "alpha," "beta," or "charlie."

And there are silent move commands. These include "home" position at the top left of the screen; to the computer cursor or to the beginning of the line on which the computer resides; to a specified line on the screen, or skip up or down several lines or across several words without having each one spoken. You can decide whether you want uppercase indicated, punctuation spoken, numbers pronounced as digits or words, or spaces between words spoken.

You can search for a given string of text on the screen, set and find up to 26 placemarkers anywhere on the screen, and define and navigate within windows. If you do not want to hear repeated characters, such as a row of asterisks, you can set how many you want spoken and Freedom 1 will indicate, in numbers, how many there are before skipping to the next piece of data.

In the latest version of Freedom 1, there is a feature to assist you in indentifying colors and other video attributes so frequently used in today's application software. Freedom 1 will identify a character either by color or by attribute, such as underlining, blinking, or normal. It will search for a given attribute or the next occurrence of the present one. You can set Freedom 1 so that it tells you if the attributes of the text you are reviewing change.

If you need to identify graphics characters, the latest version will read them as their equivalent ASCII value in the spell mode. This version will also announce the status of the "locking" keys, such as the CAPS LOCK, NUM LOCK, and SCROLL LOCK keys. This may not seem important until you realize you have written a large portion of a document in upper case letters simply because you didn't know the CAPS LOCK key was activated.

An important improvement in the latest version of Freedom 1 gives you the option of much more speech outside Review Mode. Not only can you have each keystroke voiced (a feature good typists don't use because it's too much chatter and generally several keystrokes behind), but you can now choose to have the word spoken when the spacebar is pressed instead. This is nice for word processing or data entry, although you also have the option of silencing the input.

Freedom 1 can, under certain conditions, announce the material on the screen as it is being printed. It works well in DOS and in most programs that scroll data from the bottom of the screen. It doesn't work in most word processors, spreadsheets, or other programs that use formatted screens or where fast updating of the screen is a high priority. This is true with other speech systems as well.

SPECIAL FEATURES

As mentioned previously, with a macro system built into Freedom 1, you can literally customize the speech to meet your specific needs.

This does make the program a little more difficult for the beginner, but the documentation that accompanies the program is so clear in terms of building macros that eventually even the computer novice will be pleased with the results. Currently, there are two predefined macros that are available with Freedom 1, to work with WordStar and WordPerfect. The company plans to set up a user network, whereby users can share macro settings that work with specific application programs.

Another interesting feature of Freedom 1 is the way it handles cursor control. Freedom 1 operates with two cursors: in Review Mode there is the review cursor that denotes what will be spoken next, and outside Review Mode there is the computer cursor that indicates where the next input will take place. You have four options with Freedom 1 for dealing with these.

In the default option, these two are completely independent of one another. A second option is to have the speech cursor automatically locate the position of the computer cursor, upon entry into review; this saves you from having to issue one Review Mode command. A third option is to have Freedom 1 attempt to move the computer cursor to the position of the speech cursor upon exiting Review Mode; we say "attempt" because this feature does not work in all programs. When it fails, a warning is given. Sometimes it works, but it's slow. When it does work, it is extremely useful in word processing, where you may find an error while reviewing the screen and want a quick way to get the computer cursor to that location to make the correction. This feature is not found in every speech access program, and in none of those that do offer it is it 100% accurate. Freedom 1 is as reliable as any of them.

DISADVANTAGES

The latest version of Freedom 1 has incorporated many of the missing features it needs to give it the versatility and responsiveness required by today's blind and visually impaired computer user. Then again, it could still be improved. If would be nice if you could interrupt one command by simply issuing the next one. Currently, if you have issued a command to read the entire screen, and you later decide you only want to hear the first two lines, you must first execute a command to stop the speech, and then issue the next command.

Another feature that would be useful is a dictionary, so that you could change the way the speech synthesizer pronounces (or mispronounces) a given word or phrase. Very few systems offer this feature, but it would enhance Freedom 1 to be included among those that do.

For some people, the fact that Freedom 1 is presently configured for only two synthesizers, DECtalk and the Votrax PSS, means a little more work for users who want to use other synthesizers. Freedom 1 does come with a utility program which allows you to define parameters for synthesizers not specifically supported by the program, such as the Echo GP. You can also use the utility program to set, save, and load parameters without rebooting the system each time.

FINAL COMMENTS

Freedom 1 gives you speech access to a wide variety of commercial software with considerable control and customization. The documentation is superb: very clear and everything you need to know to make the program work well. It is more difficult to set up in the beginning, with macros, than with some other programs, but well worth the time and energy because of the flexibility it permits. Ned Johnson, the developer, has been available and responsive for customer support and, if you're a music afficionado, Mr. Johnson shares a passion for music software that talks.

Prompt-Writer

by Deborah Norling

Chances are you have never encountered a word processor that becomes more useful when you turn off the screen. Prompt-Writer, from SYN-TALK Systems and Services, is designed especially for the visually impaired user. It runs on the IBM PC and compatibles with either the Votrax speech synthesizer or a host of other voice output devices. SYN-TALK will customize Prompt-Writer to work with your specific computer configuration, including your own keyboard, synthesizer, and print or braille printer. In other words, SYN-TALK sells systems and the services that go along with them.

Bill Brunot of SYN-TALK has incorporated a special kind of magic into his product. With Prompt-Writer, word processing is totally screen-independent. In fact, the software has a command which turns off output to the IBM's video buffer, which makes the program run faster.

The trend in talking software has been to create programs that give blind users access to the computer's video display. Usually, this involves patching the operating system so that the contents of the video buffer are dumped to a parallel or serial port, and ultimately to the user's speech device. Supposedly, this enables a blind user to utilize commercial software. I asked Bill Brunot why he took a different approach. "Any kind of screen-follower program," explains Brunot, "requires you to go through the difficult process of learning all those screen formats. It does little good when the company says, 'Hey, we've made it talk,' and then says, now blind people can use 20,000 programs."

With Prompt-Writer, the user would not scroll the screen down, move the cursor left three columns and up four lines, etc. Rather, you would depress the Forward Paragraph key a few times, jump backward three sentences and then forward two punctuation marks. This process of moving through the text is called "traveling" and is accomplished with function keys. You must specifically re-enter Typing Mode before altering the text.

The system has an impressive lineup of function keys, each with a specific and unchanging purpose. The keys are logically arranged and physically separated from the standard typewriter keyboard.

The "travel" keys allow you to jump forward or backward throughout the text one paragraph, sentence, word, punctuation mark, or character at a time. You can even move ahead or backward to a marker you have previously placed in the text. And, of course, you can search for a group of characters to move directly to that location. Rather than scrolling, the screen leapfrogs hither and thither at your command.

Some talking programs utilize a number of special keys for reviewing the screen character by character, word by word, or line by line; Prompt-Writer has one read-back key. In Typing Mode, it reads the entire text up to the current cursor location. In Travel Mode, it reads the section just passed over. In reviewing the text, you can move a defined distance and then read that section. It gives you complete control over "text viewing." You can choose to read with or without punctuation. Since you are traveling logically through the text rather than moving about on the screen, the process is directly related to the blind user's text memory, and there is a close mind-hand coordination. You can even perform complicated editing functions like block moves with rapid dexterity.

Prompt-Writer is a good program for a beginner: all menu choices are spoken clearly without computer jargon. Interrogatives are preceded with the word "Question." Brunot feels that control key sequences are inferior to the use of function keys because they distract and intimidate the new user.

Another nice feature for beginners is the Identify key, which disables the keys so that they announce, rather than perform, their functions. If you are not sure what a particular key does, you can identify it before experiencing the consequences.

Prompt-Writer is always in insert mode so you must consciously make deletions. You can remove a character at a time with the Delete key, or you can cut and paste. Shifting the Cut Key pastes the text to the current cursor position. You can say, "I used this key to take it out. Now, I shift the same key to bring it back." Moving blocks of text around without screen access becomes so swift and accurate it's hard to believe that you are operating with only a speech synthesizer to guide you.

During the editing process, an unformatted "instant print" is possible by typing just two keystrokes. Brunot describes a typical scenario with a hypothetical blind receptionist/secretary. Suppose the secretary is halfway through typing a letter when the phone rings. The secretary can type out the phone message in the middle of the document, and then use the block move functions to separate the message and send it to a printer. This solves the serious problem of handling constant interruptions.

Prompt-Writer has "audible windowing," which makes accessible a feature I thought would be impossible for a blind person to use. It allows you to work with up to four files at once, and exchange information among them. At any point, it is possible to switch windows, and the program dumps the text currently in RAM into a disk file and copies the contents of another file into working memory.

Several other features are worth mentioning. One key reverses upper- and lower-case letters. A typical hazard for blind users is forgetting to toggle off the CAPS LOCK key, and consequently ending up with all caps. With many word processors, you are obliged to retype the document after making such an error, but Prompt-Writer corrects it with one keystroke. When working with columnar data, there is a feature to inform you where you are physically located on a screen line. From the main menu, you can call up a separate filing menu which lets you read the directory or copy delete files. All the file manipulations are menu-driven, so there is no need for you to learn operating system commands.

Printing and formatting operations are handled with a comprehensive and separate menu. No sighted assistance is necessary. You need not imbed printer control characters in the text or worry about formatting while editing a document.

Brunot's wife, Gundrun, is blind, so Prompt-Writer began literally as a labor of love. "My wife," he explains, "is not a computer person. So our interest was in her being able to write easily. We purchased a Votrax but found a computer could only send a whole screenful of information in an uncontrolled fashion. Available software for the blind, at that time, was so computer-oriented that I knew it would not be utilized by the great number of people who just want to do office work. Once they run into the problem of trying to memorize control key functions, or as soon as you start talking to them about operating systems, you've lost most people. There are dedicated word processing systems for the sighted where you only learn about the things you need to do with the system. I thought there should be something like that for blind people."

Bill and Gudrun started dreaming and designing and testing their ideal system together. "Half of the time, I would come up with these great ideas," he laughs, "and she would try them out and throw them out the window because they just didn't work." Five years later, SYN-TALK Systems and Services is successfully marketing not just Prompt-Writer, but systems that work with Prompt-Writer, customized for individual needs and backed with the kind of support all customers require.

ProWORDS

by Peter Scialli & Al Gayzagian

GENERAL DESCRIPTION

ProWORDS is a talking word processing program for the Apple. It was written by Larry Skutchan, a programmer at the American Printing House for the Blind, and is marketed and supported by MicroTalk, Mr. Skutchan's company. Priced at $195, it offers a great deal for a small price.

ProWORDS was designed with speech in mind, thus making it easier for a blind user to execute certain tasks than would be possible with conventional word processing programs. The program comes on a "User" disk which boots up with speech, Textalker version 3.1.2, and can be used with the Apple IIe, IIgs, or Laser 128. The "User" disk provides a menu from which you can choose ProWORDS, ProTERM (if you have purchased it), and Apple Computer Company's Filer and Convert utilities, which are adapted for speech. A database management program, ProFILES, is currently under development and will eventually be, or perhaps already is, part of the menu selection.

Along with the "User" disk, you get a 112-page combined ProWORDS-ProTERM manual in print, on tape, and in standard ProDOS text files on the flip side of the "User" disk.

None of the system software contained on the "User" disk is copy protected. This makes ProWORDS the only speech-specific word processor that can be readily transferred to alternative media, such as a hard disk or even to your extended 80-column card.

SPEECH

ProWORDS is designed to work with the Echo family of speech synthesizers on the Apple IIe or IIgs, or with the Cricket speech synthesizer on the Apple IIc or Laser 128 computers.

ProWORDS uses the Textalker Speech output program from Street Electronics which gives it unlimited vocabulary. Speech rate is variable as are punctuation levels. Several tones indicate what is happening on the screen. A "gentle tone" sounds when the cursor encounters a carriage return. An illegal buzzer indicates in illegal entry, like trying to move the cursor to the left when it is already at the left margin, and so forth. A harsh beep alerts you to a disk error, such as when the disk is full.

USING PROWORDS

To get ProWORDS talking is a snap. Because ProWORDS is written entirely in machine language, it takes up very little space and, thus, takes only about four seconds to load into your computer. You simply place the "User" disk in your first disk drive and boot it. After you have selected ProWORDS from the menu by hitting the letter "W", or by using the down arrow key, you simply hit return to load the program. The first thing you hear is "ProWORDS Version 1H." Hit any key to continue—that's it. The program is ready to use.

ProWORDS is a command-driven, rather than menu-driven, program. The difference is this: With a menu-driven program, each time you want to perform a task you select that option from the menu. A typical menu might offer you the choice to edit a new or existing document, to print a document, or to delete a document, for example. Once you have made your selection, you may move to a submenu offering even more specific choices. You make your choice by pressing the appropriate option number.

Most menu-driven programs let you see menu choices, or you can bypass them and make your selection from memory. Menu-driven programs are particularly helpful for beginners, although they do not preclude the need to learn commands. Just as you need to know exactly what you are getting when selecting a dish from a French menu, likewise, you need to learn what each choice from the menu will do when using a program. Once you know what the choices or commands are, you may find the need to respond to menus annoying—even though you can bypass them. There are, of course, programs like Lotus 1-2-3, which offer so many choices and choices within choices that menus are a must, except for the most experienced user.

With command-driven programs, like ProWORDS, it is assumed that you have learned the appropriate commands from the documentation and, if your memory fails you, you can return to the documentation and look it up. ProWORDS does offer a "View" command which enables you to refer to a quick reference list of ProWORDS commands, although they are intuitive and well-organized without this help feature. All in all, it's a trade-off: frustrating and time consuming in the beginning, but faster in the long run.

The commands in ProWORDS are organized into two basic types: Control commands and ProDOS commands. You use Control commands while composing and editing documents; ProDOS commands give you access to the full range of disk file manipulations and conveniences which will be explained later in this review.

ProWORDS's text buffer has room for approximately 16 single-spaced pages of text, although it's relatively easy to create text files whose size is limited only by the amount of storage capacity you have.

ProWORDS is designed with the sighted user in mind, as well as the blind user. Movement around the screen is easy for anyone. Like many commercially available word processors for the sighted, ProWORDS is always in "insert" mode, unless you choose otherwise. What that means is this: Let's say that you are typing a letter to your mother. After a quick review, you think it wise to include the word "very" before the word "sorry." You move the cursor to the space before "sorry" and type "very." "Very" will automatically be placed in front of "sorry." This is because ProWORDS is always in insert mode. Other programs offer insert mode, too,but you generally have to go into insert mode in order to make the execution. With ProWORDS, it's automatic.

Deletions are made with the delete key. Each time you press the delete key, you delete one character or space to the left of the cursor. The delete key, in combination with the Open Apple key, deletes the word to the left of the cursor. And the delete key, in combination with the Closed Apple key, deletes all text to the left of the cursor back to the beginning of the line. Using other combinations of keys, text can be deleted between two points in the document, from the cursor forward to a specific character, from the cursor to the end or beginning of the document, or one sentence at a time.

ProWORDS makes full use of the four arrow keys on the computer's keyboard. Using the arrow keys, you can move the cursor around the screen without affecting the text in any way. You can move the cursor as many spaces as you like without touching the text until the alphanumeric keys or the space bar are hit.

Using the arrow keys in combination with the Open or Closed Apple keys produces some interesting results. For example, by using the right or left arrow keys in combination with the Open Apple key, you can move ahead or backward one word at a time. The left and right arrow keys in combination with the Closed Apple key move you to the beginning or end of the current paragraph. The up and down arrow keys, when used with the Open Apple key, move you up or down by any number of lines that you preset and save as a default value. And the up and down arrows along with the Closed Apple key move the cursor to the beginning or end of the document.

Text can be spoken a letter or word at a time simply by moving the cursor forward or backward. You can also set up nine "marks" within the text. Marks allow the cursor to be instantly reset to a predetermined position within the text at any time.

Control commands

In addition to cursor control over spoken text, ProWORDS utilizes Control commands to give the visually impaired user even greater control over word processing. Hit Control-S and you activate the search and replace function. Using this feature, you can search for a character or string or characters, including control characters. The program will locate each occurrence of the string, in succession, and display the string and the line on which it appears. The program then asks you if you want to continue searching, to which you can respond yes or no.

You can automatically replace a string with another string, either once or as many times as it appears. The search and replace feature can be activated either from the position of the cursor to the end of the document by hitting Control-S, or from the position of the cursor backward to the beginning of the document by hitting Control-Z.

Control-R enables you to read through the text a sentence at a time, until a key is pressed to stop it. While using this feature, you can hit an arrow key alone or in combination with one of the Apple keys and cause the cursor to jump the requisite distance, at which time reading by sentence will resume. Control-G will force the speech to read the text word by word, until it is stopped with a tap of the space bar.

Control-E gives you access to all Echo speech commands, and Control-L puts you in Echo Screen Review Mode.

ProDOS Commands

ProWORDS provides direct access to ProDOS functions using single keystroke commands. These commands consist of the Open Apple key depressed in conjunction with another key.

Open Apple-S saves the text contained in the text buffer to a specified path name (path name refers to the name of the disk and the name of the file). Conversely, Open Apple-L allows you to load a text file into the text buffer for editing. When loading text files, the amount that can be directly placed in the text buffer is limited to the amount of memory in the buffer. If you attempt to load a file that is too large, the message "File Too Large" will be displayed and spoken. You can, however, work with that portion of the file that will fit into memory and, later, using the Open Apple-O (overflow load) command, subsequent portions of the file can be loaded into the buffer for editing. Similarly, when a document that is being created becomes too large to store in the text buffer, you can save it to a disk file and append other material to it later.

Control-A will provide a spoken readout of the cursor's location indicating line and column. This is a particularly handy feature for programmers who need to know line numbers.

Control-C lets you copy and move sections of text from place to place. To do this, you simply mark a section of the text to be moved. Then you move the cursor to the location where the copied portion is to be inserted. The text is moved, and you are prompted as to whether or not the original text should be deleted.

Control-O, followed by any other control character, allows that control character to be entered into the document as text. This function is applicable to the search and replace feature as well.

Control-V toggles the voicing of keystrokes on and off. While in the "voice off" mode, only actual keystrokes are silenced; commands and cursor movements are spoken.

Control-P toggles the key click feature of ProWORDS. For faster typing, it is useful to silence the voicing of keystrokes while enabling key clicks. A click occurs whenever a key is hit, even though the actual letter or number isn't announced. This confirms the entry of a character. Also, for sighted users who are not using speech, the clicks more closely resemble the clicking of a typewriter.

Subsequent portions of the document may be appended to the file with the Open Apple-A (append) command to create as large a file as you desire. The Open Apple-F command provides you with an accounting of the free memory which remains in the text buffer.

Open Apple-I lets you insert the contents of a disk file, beginning at the cursor location, into a document. Open Apple-C copies a disk file from one path name to another; this obviates the need for exiting into a separate utility program to accomplish this chore. Open Apple-M lets you make a new data directory, while Open Apple-comma (,) sets a new ProDOS prefix.

One of the truly unique features of this program is the View (Open Apple-V) command. This lets you look at another file, whichever one you choose, without disturbing the contents or cursor location of the file you are currently editing. It would be helpful if you could use the search command while viewing the other file, so you could quickly find what you need to look at, but this may be asking too much.

Other ProDOS functions include Open Apple-D to delete files, Open Apple-R to rename files, and Open Apple-E to execute other system files.

SPECIAL FEATURES

ProWORDS is a system program. This means that you can easily and quickly go from ProWORDS into another system file and back again. For example, let's say you wanted to create a document, print it to a formatted disk file, exit the word processor to get into a terminal program, and then send the file and get back into the word processor. With ProWORD's system format, you can exit the word processor and get into the ProTERM terminal program in four seconds—if the ProTERM program resides on the same floppy disk, as mentioned previously. In addition to ProTERM, other system files such as Filer, Convert, or BASIC.System can be accessed with similar speed.

Another special feature of ProWORDS is its lack of copy protection, which enables the program to boot up very quickly. Also, it can consolidate the program along with other similar, relevant files on one disk or other I/O device. Unlike most other commercial software which is copy protected, you can put ProWORDS on any disk you happen to be using. You never have to worry about the integrity of the "master" copy, since it never has to leave the storage bin!

Third, and perhaps most important, is the way in which ProWORDS handles printing. Rather than using cumbersome formatting menus, ProWORDS acts like many commercial word processors for the sighted in that it uses "print directives." A print directive is a code which gets embedded in the text of the document. The directive itself does not appear in the finished product, but instructs the software as to the appearance of the final product.

ProWORDS comes with certain print parameters already set up. For example, unless you issue a print directive telling it otherwise, the top and bottom margins of the page will be six lines deep, the lines will be single-spaced, and so forth. It is, however, very easy to change any of these.

In addition to being able to change the parameters just mentioned, it is possible to set automatic indenting at the beginning of a paragraph. The ability to set a negative indentation is very handy for producing specialized material such as a bibliography, in which the first line of an entry must be three spaces to the left of subsequent lines.

There is an Orphans/Widows directive which eliminates the possibility of having either the first or last line of a paragraph hanging by itself at the bottom or top of the page. Other print directives include those for left, center, or full justification of text, and conditional page breaking. In a conditional page break, the computer will skip to the top of the next page to be printed if there are fewer than X lines to print on the current page. X is a number chosen by you. This command, along with the Orphans/Widows directive, ensures that there will never be a heading or title by itself at the bottom of the page.

Another tremendously useful aspect of the print directives approach is that it lets you send the printed output to any of the Apple's expansion ports. By choosing port 8 (Apple has only seven actual ports), you can create a formatted text file on disk. This is essential for preparing files which are later sent to a host computer through a telecommunications package.

The nice thing about print directives is that they permit you to alter page formats during the course of the printing of a document. For example, if you find that you want to place an offset quote in the body of the text, it's easy, using print directives, to change the spacing and margins for doing just that. Similarly, if you wish to change a running head or foot during the course of printing the document, you can easily do so. Page numbering, likewise, can be altered or switched on and off.

An Open Apple-K at any point during the creation of a document will produce a visual "snapshot" of the document being edited on the screen. This snapshot takes into account all of the print directives which have been issued. At the same time the snapshot is displayed, the current three-dimensional location of the cursor is spoken, giving page, line and column. The blind user can, of course, study the snapshot with the aid of the Echo review commands.

DISADVANTAGES

There aren't many things to complain about with ProWORDS.

The delete routine, while offering an important protection against inadvertent deletions, can sometimes be more of an inconvenience than a convenience. What we're talking about here is the feature that allows you to move deleted characters to a keystack, where they are stored and can be retrieved later—in case they were deleted by mistake, or are to be moved to another part of the document. The problem is that the last-in-first-out nature of the keystack process, and the inability of ProWORDS to override the process, can clutter the keystack with characters you never want to see again. While not a serious defect by any means, it could be remedied with an override capability.

Second, one must be very careful to heed the warning contained in the documentation about setting marks. Marks, as mentioned before, allow the cursor to be instantly reset to a predetermined position within the text at any time. However, it's important to set the marks immediately before invoking some of the commands—such as block moves or deletions—because inserting or deleting text anywhere in the document, ahead of the mark, will separate the mark from the character with which you meant to associate it.

Third, and a very minor point, when you turn ProWORDS on, you will have tabs set every five spaces. While clearing and/or changing these settings isn't difficult, it would be helpful to have a printing directive which would clear all tabs and let the user set tabs at specific points. This could be an alternative to the current approach, rather than a substitute.

It's possible that these small problems have been or will be changed by the time you read this review. Please contact the vendor for up-to-the-minute details about the program.

FINAL COMMENTS

What you get, for a small price, is a flexible, easy to use, custom-designed-for-speech word processor with some very nice features, especially the print directives. The speed and flexibility of ProWORDS is enhanced by the fact that it's a system program, not copy protected, and the only talking word processing program written entirely in machine language.

ProWORDS's range of printing options is impressive. Quite simply, it permits the user to decide the exact appearance of the final draft of a document. Unlike some other word processors, there is never any scheming necessary to try to "fool" the program into printing something a certain way. It's all there!

Finally, and no less important, is the unwavering support of its creator, Larry Skutchan. He provides free updates to all software purchasers for six months from the time of the purchase. And he's always available for support. He has just come out with a demonstration copy of ProWORDS, so you can try it out. Take a look and see just how nice it is.

BEX

by Al Gayzagian & Michael May

GENERAL DESCRIPTION

BEX is a word-processing program for the Apple II family of computers with at least 128K of memory. The designer and publisher of BEX is Raised Dot Computing, one of the first companies to enter the screen review market in 1981, and today one of the most savvy one-stop shopping corporations handling adaptive computer aids for the blind.

The beauty of RDC's products is their accessibility to people with varying levels of vision, from those with normal sight to those with no useful vision. While this review focuses on speech output, BEX also provides large print screen display, and translates regular print to Grade II braille and vice versa.

Both the BEX program and the documentation are divided into three levels: Learner, User, and Master. Documentation comes in print, and your choice of audio tape or braille. In addition, all purchasers receive print and braille reference cards, and a separate index. The braille edition of the index contains a table of contents for the audio tapes as well.

The Learner Level is geared for people who have never before touched a computer; it includes a keyboard map and an explanation of basic computer concepts like the "Return key" and "default." The Learner Level documentation provides an introduction to basic word-processing concepts, limiting the print discussion to simple formats sufficient for producing letters and term papers.

The User Level program adds file importing and exporting functions (computer slang for sending files to and from other systems), as well as an in-depth discussion of more complex printer formats. And by the time you get to the Master Level program, you can use up to six floppy disk drives or up to 50 volumes on the Sider hard disk system.

BEX sells for $400, which includes a one-year subscription to the company's Raised Dot Computing Newsletter, which is one of the only company-based newsletters to religiously print reviews and make announcements about competing products.

SPEECH

BEX recognizes when the SlotBuster or any member of the Echo family of speech synthesizers is present in your Apple, and automatically loads the SCAT or TEXTALKER screen review software, as appropriate. BEX also works well with most other synthesizers, including the Echo GP, Votrax, and DECtalk.

BEX provides a command window through which you may send any commands you wish through the interface to the device you've defined as your voice device. When you tell BEX to print text, you can piggyback voice output onto this print stream; you can also print to the voice alone.

There are two voice output modes in BEX's Editor: jerky and non-jerky. When you use jerky speech, pressing the spacebar stops the speech and cursor movement immediately, even when using a relatively unresponsive device like DECtalk. Jerky speech does slow down output somewhat. If you choose non-jerky speech, the interruptability of the speech will depend on your specific voice output device. The underlying text-to-speech software for the Echo family or SlotBuster allow for instant silencing, while the response time for serial devices is generally much longer.

USING BEX

BEX is a combination menu-driven and command-driven program. The Editor and Print functions are completely command-driven, while the braille translation, file import and export, and utility functions use short menus. As you move from the Learner Level to the Master Level, the menu prompts get shorter and the documentation explains how you can modify the prompts to suit your personal taste.

BEX has a unique file structure: a file can contain up to 128,000 characters, which are divided into "pages" of not more than 4,000 characters each. These machine "pages" have no inherent relationship to the output pages. At the Learner and User Levels, you can work with the 4,000-character page, while the rest of the file remains on disk. At the Master Level, you can work with the "Zippy Chapter," where 6 pages or 24,000 characters of information are in memory at once.

BEX does a good job of managing the page structure for you. Within a page, you can always find out what your current page number is and how many pages are in the file. You can move to the "next" or "previous" page, or you can move among pages by number. Since BEX uses a variation of Apple's older—and slower—DOS 3.3, moving between pages takes some time, unless you are using the Zippy Chapter. Each time you move between pages, the previous page is saved to disk and the next page is loaded into memory, which takes about 9 seconds. BEX's "page menu" utility allows you to rearrange pages and copy them between files.

Either you like this "page" structure or you don't. It does offer several advantages. First, it helps you organize your thoughts. Second, it prevents you from inadvertently losing more than 4K of information in case of power loss, or stupidity. Third, the page structure makes it easy to reorganize information, since you can define a page as less than 4,000 characters and can easily rearrange or eliminate pages.

Once you get to the User Level, you can forget about page menus altogether, thanks to BEX's "Clipboard" feature. This wonderful feature makes moving text quite enjoyable. The Clipboard is the same size—4K—as a "page," but it's outside any particular file. It's sort of like a scratch pad, sitting in memory, just waiting to be used. Essentially, it gives you another window on your text. You can copy text to the Clipboard or you can accumulate text on it. Two keystrokes exchange the contents of the current page with the Clipboard, which means you can always examine and edit information on it. And, with two keystrokes, you can insert the contents of the Clipboard into any page, into any file.

INSIDE THE EDITOR

BEX's basic unit is the paragraph. Unlike many word processors that use a carriage return to indicate a paragraph, BEX uses four characters: space, dollar sign, p, space. Although somewhat unusual, hearing your synthesizer say "dollar-sign p" clearly lets you know when you move to a new paragraph. A carriage return in BEX marks a new line, not a new paragraph.

There is a broad range of cursor movement commands in BEX's Editor; some speak and some are silent. All of the spoken commands are interactive, which means the audio cursor and the input cursor are always the same. You can speak letter by letter, word by word, sentence by sentence, or in groups of 500 characters. When moving letter by letter, every character (including control characters) is announced, regardless of the punctuation ability of your specific voice device.

Those cursor movement commands that are silent have a logical structure: Control-A plus a number plus a unit advances the cursor. Control-Z plus a number plus a unit zooms the cursor backwards. For example, Control-A 17 Control-W moves the cursor ahead 17 words; Control-Z 8 Control-P moves the cursor back eight paragraphs; and Control-A Control-T moves the cursor ahead one sentence. The deletion commands use the same pattern.

In BEX's default mode, keystrokes will not be voiced, but you can turn this feature on if you wish. When the keyboard echo is off, BEX has a 256K keyboard buffer, which makes it impossible to overtype text.

There is also a "lock out changes" mode, where every keystroke becomes a control character. You can quickly move around your text in this mode, and BEX will ignore any command that would change your text in any way.

PRINTING WITH BEX

BEX provides a good range of printing functions, although not quite as powerful as mass-market programs like WordPerfect. BEX's print output can be formatted "on the fly." The text on a disk is not page- or line-oriented. All printing activities are controlled by embedded format commands: each command begins with "space dollar-sign dollar-sign." An unusual feature of these commands is that they control printing relative to the image of the page. While you can instruct BEX to "Repeat this text on line 55 of every page," you can also command BEX to "Repeat this text on the third line above the bottom line on every page." Similarly, you can tell BEX either "Use a left margin of 5," or "Increase the left margin by 5." Since BEX makes large print on Epson or ImageWriter dot-matrix printers (provided you have the right interface card), as well as regular print and braille, the relative command structure automatically adjusts for the differing numbers of characters per line and lines per page. BEX can center, or center and underline, multi-line headings.

One command does simple page numbering: for print, it's the word "Page" followed by a number on the bottom line; for braille, it's the page number at the end of line one. You can specify fancier page numbering, using running headers or footers. And, you can manually enter discretionary hyphens in your text, but BEX cannot automatically hyphenate. Nor can it place footnotes at the bottom of each page. In addition to regular tabs, you can precisely position material horizontally. Boldface, super- and subscripts, and changes in pitch are supported for many dot-matrix and daisy-wheel printers. It's also a snap to enter printer control codes directly into your text for special effects.

BEX does not provide "micro-spacing" for left- and right-justified text. BEX does give you good control over page breaks, and you can tell BEX to check to make sure there are enough lines for some text, and then BEX will move to a new page. The supplemental BEXtras disk provides examples of some pretty fancy formatting, although you may not want to try this until you have carefully studied the manual.

SPECIAL FEATURES

BEX is not only good at word processing, it is very talented at text processing as well. A big difference between BEX and other word processing programs for the blind is the fact that BEX can also translate text between print and Grade II and Grade I braille.

It's also easy to dump text from other computers, such as the Kurzweil Reading Machine, VersaBraille II, IBM, and many more devices, directly into BEX files using the "Input through Slot" option. Additionally, there are high speed features that transfer information between the Apple and the tape-based VersaBraille. And Raised Dot Computing has gone a step further in providing an interface manual, which provides detailed information on interfacing the Apple with a wide variety of other devices, plus they sell the appropriate cables to do so.

The Read textfile utility very quickly reads both DOS 3.3 and ProDOS textfiles, so you can import text created in almost any Apple word processor. In addition to a wide variety of printers, you can print a file to disk as a DOS 3.3 textfile. The table-driven Replace characters is a feature normally found on dedicated typesetting systems, and you can perform very subtle manipulations with it. Supplied tables, called "transformation chapters," include one designed to reformat text downloaded from commercial information systems, and another that reformats text imported from the Kurzweil Reading Machine. Another transformation chapter automatically places two spaces at the end of every sentence, while maintaining a single space after abbreviations. This is possible through the Contextual Replace feature, which provides very sophisticated wildcards that verge on a programming language. This feature may be difficult to understand at first.

Raised Dot Computing has built on these features to create TranscriBEX, a braille transcription system that lets sighted typists create highly accurate textbook-format braille. One TranscriBEX feature lets you prepare press braille at National Braille Press.

DISADVANTAGES

In attempting to provide a friendly environment to people with a broad range of vision impairments, BEX sometimes presents a "clunky" user interface. When entering data in BEX's Editor, you do not have "word wrap" on the screen, for example. This is only pertinent to a sighted user who would see words split between lines, although this in no way affects the output. Splitting words between lines is a plus, however, for large print since more text appears on any given screen at any given time. Sighted users can preview the text without leaving the Editor by hitting Control-V and printing the text to the 80-column screen. To achieve the same result, a blind user will generally need to leave the Editor, and print the text to a "review printer," so it can be examined using the speech synthesizer's screen review capability.

Another drawback, for some users, is that all text you enter in the Editor overwrites existing text, unless you specifically invoke the insert feature. While using this insert mode, you cannot edit while inserting text; but you can get around this limitation quite easily with the Clipboard feature. BEX's Editor enables you to search for character strings a page at a time, but it does not have a built-in search-and-replace feature. You can, however, exit the Editor, invoke the very powerful Replace characters function, and re-enter the Editor relatively quickly.

BEX has a rather odd copy-protection scheme. When you order BEX from Raised Dot Computing, you receive a BEX Master disk that is serialized with your name and zip code. The Master allows you to make three back-up copies, but the back-up copies you create can't copy themselves. One result of this copy protection is that new users are protected from inadvertently initializing and wiping out their program disks.

FINAL COMMENTS

The support from Raised Dot Computing is legendary—the only way their telephone support could be any better would be to add a toll-free line. BEX even has a "System Description" option that saves a snapshot of the devices in your computer on disk for RDC to use in diagnosing difficulties. People who bought BEX when it was introduced have received three updates, free of charge.

Few, if any, companies provide such voluminous, comprehensive, technical details in their manuals as RDC does, including their progressive learner package. The material is so well presented and thoroughly explained that, if followed as recommended, even the newest user will soon feel at home with it all. They also publish an excellent Newsletter in large print, audio tape, and BEX disk, which is included in the purchase price.

A little feature we forgot to mention earlier lets you enter text using the Apple keyboard as if it were a Perkins Brailler, using the asd hjk keys. This is nice for people who prefer to enter Grade II text directly into the computer.

The folks at RDC are exceptionally adept at handling any kind of problem you might encounter, and have gone a long way toward eliminating problems before they happen. They have even included a "known system anomalies" sheet with the manual that informs you of known bugs in the program; this type of honesty is rare. The sheet is updated as bugs are eliminated and new problems found. Fortunately, the list is short and consists of minor problems.

In short, Raised Dot Computing has set the standard for customer support in the field.

WORD-TALK
by Neal Ewers

GENERAL DESCRIPTION

WORD-TALK is a talking, ProDOS-based word processor for the Apple computer and the Echo speech synthesizer. Priced at $195, from Computer Aids Corporation, WORD-TALK is a "what you see is what you get" program—unlike BEX and ProWORDS. This means the screen always resembles the currently formatted printed page, which also means there are no embedded print format commands to learn.

The WORD-TALK manual—free from the necessity of explaining a variety of complex embedded commands—is short, well written, and easily understood. And, for Apple Uni-Disk 3.5 owners, you can purchase WORD-TALK and FILE-TALK together in a single work station package.

SPEECH

Computer Aids has modified a very early version of the TEXTALKER program which, among other things, mispronounces a greater number of words than some of the later versions. They have, however, added the TEXTALKER interruptibility feature to the program. In fact, this feature can be turned on and off from inside the editor. Three speech speeds are available, and the punctuation parameters can be controlled separately in both the keyboard or typing mode and in the review or listening mode. But the pitch and delay defaults of the voice output cannot be adjusted. The absence of the TEXTALKER screen review mode makes it difficult to spell out catalog entries and other relevant information.

USING WORD-TALK

As mentioned earlier, the screen always resembles the printed page in a "what you see is what you get" manner. To indent a paragraph or create several columns of words or numbers, you simply press the tab key and the cursor will go to the preset positions called up by the program. (You can change these positions to your liking.) To center a line, simply press Control-W at the end of the text you want centered. The appropriate number of spaces are inserted in the beginning of the line so that it's moved over to the correct position.

Additional format options are supplied in the format menu. Here you can set margins, single sheet or continuous feed, page numbering, running headers, and footers, or decide the specific page or pages of a multiple-page document you wish to have printed. And when you have finished formatting, you can simply return to the editor to check out your new parameters.

This is easily done, because WORD-TALK's menus are logically arranged like a tree with branches growing off of the main menu "trunk" in several directions. For example, if you press F at the main menu, you are immediately in the format menu. Press M in the format menu and you are in the margins menu. At all menus, pressing the Escape key always takes you back to the previous menu, and Open-Apple Escape takes you back to the main menu. What's more, in whatever menu you are currently working, you are only one keystroke away from the editor. Enter the margins menu, for example, change the margins, and press Return to enter the editor at that point—and there you are, ready to check out your new format.

Place the cursor wherever you wish and press Control-A: the column, line, and page location of the cursor will immediately be spoken. Or you can press Control-G, and direct the cursor to "go" to whatever column, line, or page you desire.

SPECIAL FEATURES

By placing the printed page at the tips of the user's fingers, WORD-TALK allows those of us who cannot see to more easily accomplish a variety of tasks. Anyone who spends more than a few minutes a day writing or proofreading forms which contain information in specific column and line locations probably doesn't need to be convinced of the merits of this program. Except for the absence of a command designed to right-justify the text on a particular line, WORD-TALK seems to have all the formats and flexibility required for form-filling applications. Or, you may need to check the exact word placement of a complicated brochure you will be sending out to your customers. Understanding how the page appears to people who can see may help you more confidently determine the shape of the final product.

DISADVANTAGES

This particular "what you see is what you get" program can be a mixed blessing, especially for those who write long documents. The absence of embedded commands can make locating text difficult. Consider, for example, searching for titles and paragraphs in a 15-page document. A blind user may find it difficult to simply arrow the cursor to these boundaries as quickly as someone who can see them on the screen.

With that in mind, one might start by searching for the returns that most often mark paragraphs. But WORD-TALK does not place searchable <CR>s in the text. The return key simply causes the cursor to go to the next line, so that strategy doesn't work. Searching for multiple spaces will find the spaces at the ends of lines as well as at the beginnings.

I contacted the folks at Computer Aids Corporation for guidance, and they suggested two approaches. Use the "Go To" command, mentioned above, to move to the line number that contains the title, or simply search for the words that begin the title or paragraph in question. But I find it all but impossible to recall that information from among the hundreds of words and lines in a 15-page document, especially one I may have written months ago.

They did supply me with an undocumented trick: You can set up your own "tokens" by pressing Open-Apple-Number. For example, for the start of each paragraph, enter Open-Apple-1. These tokens show as inverse characters on the screen and can be searched for, but they do not appear in the printout. This trick works, but not perfectly. The tokens take up space on the line. When your paragraphs indent five spaces, a token at position four is no problem, but when you have block stye paragraphs, your line lengths will be off by one. Also, the numbered tokens are recognized as real characters by other programs that can read the WORD-TALK textfile which contains them. Thus, they are faithfully printed out by both ProWORDS and BEX.

But even with these user tokens to mark title and paragraph boundaries, I still had problems. WORD-TALK can only search forward from the cursor position. As a result, if you're currently at paragraph 20 and you want to go back to paragraph 12, you either return to the beginning of the document and attempt to find paragraph 12 by starting the search procedure all over again, or you spend a fair amount of time running the cursor up the left hand margin in search of the desired boundary. When you do, the Echo pronounces the first letter of each word passed over. Eventually you come to a space that signifies either a blank or indented line, but this is a very slow process for blind users.

A second problem occurs when formatting the printed page. WORD-TALK provides a distinctive beep that marks the transition between print pages. But, unlike BEX and ProWORDS, WORD-TALK has no way of preventing the very bottom line on that print page from containing the title of a major section of the document. The only way around this dilemma is to insert a blank line before the title, thus forcing that title to appear on the next page. So I used WORD-TALK's "Go To" command to call up the last line of each page of the document and insert a blank line wherever needed.

Unfortunately, you could have the same problem I had. When I arrived at the final page of my document, I realized there was only one line of print on that page. "Easy!" I said, entering the format menu and making my right margin a little narrower. "Let's hear it for the magic of computers." Oh, for some magic, indeed, for now my 14-page document had added lines that were all in the wrong place. And, for all I knew, the bottom line of any page could still contain a title.

There was nothing to do but begin this procedure all over again, and then I discovered another problem. My centered titles were the same number of spaces from the left margin they had been before I reformatted the document by adding 3 spaces to each line. In other words, my titles were no longer centered. Since WORD-TALK does not make use of embedded commands, I was forced to once again search for all 13 titles and perform the Control-W centering operation on each of them in turn. If WORD-TALK had the ability to search for format information as well as characters, it would be a lot more flexible.

Finally, there are a few miscellaneous problems. Like ProWORDS, WORD-TALK saves information to disk as a ProDOS sequential textfile. It will also read textfiles written by other programs. But there is no way to search for and delete the numerous returns that may appear in those files. Each unwanted line break they cause must be reformatted by hand. Also, WORD-TALK provides only limited DOS utilities. You must leave WORD-TALK to copy disks, copy files, or convert information between DOS 3.3 and ProDOS. It does allow you to delete and rename files as well as create additional ProDOS sub-directories. The WORD-TALK manual makes almost no attempt to explain the ProDOS utilities it provides, and it does even less to help the beginning ProDOS user cope with the concept of volumes, subdirectories, pathnames, etc.

By the time you read this review, check with the company to see if any of these problems have been cleared up.

FINAL COMMENTS

There are some definite advantages to a "what you see is what you get" program. WORD-TALK provides that certain sense of security in always knowing exactly what your printed page will look like. For people writing short memos and letters or filling out forms, WORD-TALK is an easily-navigated and easy-to-use program. However, for people writing longer documents, the price paid for WYSWYG security may be too high. Without embedded commands that control page formatting, margins, paragraph indents, centering, etc., one must constantly reformat the text by hand, much as you would on a very good talking typewriter.

ProTERM

by Brian Charlson & Don Breda

GENERAL DESCRIPTION

ProTERM is a terminal program for the Apple IIe, IIc, or IIgs that enables you to access other computers over the phone lines, when used with the Echo family of speech synthesizers. ProTERM now comes in two versions, ProTERM ($150) and ProTERM Plus ($195), the difference being that ProTERM Plus supports the XModem protocol. The XModem protocol ensures error-free file transfers, which is critical if you intend to transfer software from databases and bulletin boards.

Three possible configurations are: the Apple IIc or IIgs and a modem, or the Apple IIe (which has been enhanced), an Apple Super Serial Card and a modem. The enhancement required to use this program on an Apple IIe can be done by any Apple dealer for around $100; owners of older models will also receive an updated mother board.

CONFIGURING THE PROGRAM

Setting the parameters is very simple. Using the Open Apple key as a shift key, you press an Open Apple P and the program takes you through a parameters menu allowing you to set baud rate, parity, data bits, stop bits, and to list any number of characters that you do not wish to have spoken. You can save these settings on a disk for future use, or they can be used just once. In any case, pressing the escape key takes you back to the main program and you are ready to go "on line" or, in other words, to call a remote computer.

SAVING FILES WITH PROTERM

Saving files with ProTERM is as easy as setting it up. When you press an Open Apple N to turn on the capture buffer, ProTERM saves everything you type, and everything the remote computer sends you. Press Open Apple S to save what you have captured to your disk. If files or documents get too large for your computer to store in its memory, ProTERM will automatically save what is in your computer's memory, thus clearing it for more data. This feature allows you to save buffers continuously to the same file, which means you don't have to create a new file every time your buffer is full.

Thanks to ProTERM's unusually large capture buffer of more than 13,000 characters, this save-to-disk procedure doesn't have to be carried out very often.

ProTERM also supports the X on/X off protocol, which ensures data integrity during transfer.

TRANSMITTING FILES WITH PROTERM

Transmitting files you have previously written—as opposed to writing them "on line"—can save you quite a bit of money. With ProTERM, you can transmit a file or document you have previously written to the remote computer by simply pressing an Open Apple T and selecting a file from your disk. The program will tell you when it has finished and return you to a place in the program where you can continue to communicate with the remote computer.

The XModem protocol feature, offered by ProTERM Plus, will be worth the extra cost for many users as it provides error-free receiving and transmitting of files when used with systems that support this feature. There are, in fact, some systems that require the XModem protocol.

SETTING MACROS

Macros, the computer's answer to speed dialing, can be set with ProTERM alone, but are more easily set with the aid of a word processor, like Mr. Skutchan's ProWORDS. Activities such as dialing up other computers, typing in your password or name, or setting out long, complex chains of commands are prime candidates for macros.

To load your macro file, you press an Open Apple L and select your choice of macro by pressing an Open Apple spacebar, and the macro's name.

OTHER FEATURES

While ProTERM shares the same features available on most other terminal programs, it also has some unique ones. For example, ProTERM has a clicker feature that tells the blind user when the remote system is sending text. (An Open Apple C is used to turn this feature on and off.) In addition, ProTERM does not need to be in buffer mode to keep on top of incoming data. You can choose to listen to the entire text as it comes in, or to jump in from time to time by alternating between the control X and the spacebar.

One of the best features offered by ProTERM is the "dump buffer" option that lets you silence the speech and have it catch up to what is being transmitted. This can be a real time saver, and when you're saving connect time, you're saving money.

ProTERM will work at speeds up to 9600 baud, making it useful not only for working with systems now offering transmissions in excess of

1200 baud, but also when working with other computers off line in the process of exchanging data.

DISADVANTAGES

For Apple IIe owners using something other than a Super Serial card, ProTERM's failure to support other cards can be a nuisance and an additional cost. But since a IIe owner will have to use some type of serial card in order to go on line, this isn't a significant problem.

Another nuisance is ProTERM's inability to silence keyboard entry completely at 300 baud. While the program gives you the ability to "kill" keystroke entry, at 300 baud the feature doesn't work as well as it should, with the result that some keystrokes don't properly get to the remote system. It should be noted, however, that the program's creator, Larry Skutchan, believes he can solve this problem, and may have by the time you read this review.

FINAL COMMENTS

ProTERM has many other nice features making it an excellent terminal program for Apple users—not to mention one of the only ones! Mr. Skutchan is constantly improving the product and provides regular updates based on feedback from users. With the accompanying clear documentation, a new user can be on line almost immediately. In summary, you really can't go wrong with ProTERM or ProTERM Plus from MicroTalk.

FILE-TALK

by Neal Ewers

(Reprinted from Raised Dot Computing Newsletter)

Computer Aids Corporation has produced a talking database program that is truly head and shoulders above existing programs. FILE-TALK works with Apple IIe, IIc, and IIgs computers equipped with at least 128K of memory, and sells for $195. It's also compatible with a wide variety of voice synthesizers. The program is quick, versatile, and handles an incredible amount of information, especially when used with a memory expansion card, RAM drive, and/or hard disk.

The basic unit of information in FILE-TALK, and other database programs, is called a "record." In a database containing a small business invoice, for example, each transaction could be one record. A record is further broken down into "fields," each containing a specific piece of information, such as the buyer's First name, Last name, City and state, Number of items sold, Price per item, Amount received for all items sold, Sales tax, and Total. In FILE-TALK, each field can be up to 999 characters long; each FILE-TALK record can contain up to 250 fields.

As with other Computer Aids programs, FILE-TALK is menu-driven; there are scores of sub-menus branching off its Main menu. However, the designers have pared the chattiness of the menus to the absolute minimum. In general, nothing is spoken unless you ask for it. Since the program is loaded into memory, the disk drives do not have to be accessed when moving from one menu to another. When you arrive at a menu, you only hear its one-word title. To get the list of choices, you press the spacebar. To find out what the choices do, you press H for Help and you're given information about that particular menu. At all menus, one letter moves you to another menu, the Escape key backs you up to the previous menu, and Open-Apple Escape goes directly to the Main menu.

FILE-TALK uses a hybrid TEXTALKER program which makes use of the best of one program and the worse of another. It does have the any-keystroke-shuts-up-the-speech feature found in TEXTALKER 3.1.2. In fact, this feature can be turned on and off in a matter of seconds. But its word pronunciation ability is at least 2 years old. For example, it pronounces the letters M, N, and L in almost the exact same way. This means that it is almost impossible to look for spelling errors in certain proper names when you don't know whether the name in question is Leis, Meis, or Neis. Voice speed can be controlled, but pitch and delay between words cannot be changed. There is a form of screen review, but the non-standard commands are idiosyncratic to FILE-TALK and WORD-TALK.

Setting Up a FILE-TALK File

Place the program disk in drive one, turn on the computer, and you're off. In 25 seconds you are at the Main menu. Press U and you are in the Utilities menu. Press C to move to the Create menu, and you're ready to set up a "file form," a kind of guide that will help you enter and search for the information in this specific database file from now on.

For starters, define the name of each field, how many characters it will contain, and one of five possible "field types:" Alpha, Date, Time, Number, or Compute. By defining a field type, you tell FILE-TALK what it is to do with the information in that field. The Alpha classification is the most general: you can enter any letter or number in an Alpha field, such as buyer's name, city of residence, etc. The Numeric type means that there will be numbers, such as Price per item or Sales tax, that can be added, subtracted, multiplied, divided, or some combination of all four.

A Compute field contains a formula which allows you to arithmetically manipulate data in the numeric fields. FILE-TALK automatically calculates this information and stores it in the Compute field. You may optionally designate one field as a "key field," so that FILE-TALK automatically sorts all your records as you enter them. When you define the Last name as the key, then your invoices database is always sorted alphabetically by Last name. You are still free to temporarily or permanently sort the data in a different way. Unlike other talking database programs, FILE-TALK lets you quickly modify this file form. You can change the field's name length and type as often as your needs change.

Once you create a file form, you are ready to enter data. Simply follow the guide you have created and fill in the appropriate information. If you have a key field set up, each new record is sorted and saved to the computer's memory in about one second. Records can also be saved to disk, either from within a particular record or at the end of record entry.

Editing Records

When you search for and find a record, the first field is the only one spoken. Throughout the program, FILE-TALK supplies you with minimal spoken output—but you can always get more on request. You can toggle keyboard echo off and on with a single keystroke from anywhere in the program. When you move to another field, the line you arrive at is always voiced. When you move to the next record, the line spoken is the same line the cursor was on in the previous record.

An impressive array of edit commands are available as you enter and subsequently modify your data. You can delete characters, words, the remainder of a line to the right of the cursor, or the entire field, as well as insert characters anywhere on the line. Control-T takes you to the last character in the field, and Control-Y takes you back to the first character. Control-G lets you Go to any field by simply typing in enough of the field name to be distinctive.

An elegant time-saver is FILE-TALK's ability to define "default strings"—a different one for every field in the record. Suppose you were entering records many of which contained the words "Madison WI." You assign them to a default string, and press Open-Apple-D in those records where you wish the default string to appear.

Searching For and Manipulating Information

Once you've created a number of records, you can start to really have fun. You can delete records, find records that match specific search criteria, and globally or singly replace information in particular fields. Press R to get to the records menu. Press L to Load the file into memory. My file containing 550 names, addresses, and phone numbers takes about 25 seconds to load.

When all records are loaded, press F to arrive at the Find Form. Surprise! It looks just like the file form you designed when you set up the database. To find all invoices for people in Milwaukee, move the cursor to the field named City and write in part or all of the word Milwaukee. Press Control-F and you're at the first of the records that match your search criteria in about one second. You are then free to edit and save as before, or you can press Control-F once again and go to the next record that meets your search criteria. Just as when adding records, you can explore the record a line at a time with the arrow keys, or enter Control-S to have the entire record read. An even greater range of cursor movement is available with Open-Apple-arrow combinations.

Every field in the Find Form record can contain search criteria. Suppose you want to find all the people named Bill who live in Milwaukee. You've already entered the "Milwaukee" criterion; now go to the Name field and type in Bill. Press Control-F and all records that meet both criteria are presented for your inspection.

FILE-TALK also allows you to do logical searches, using the greater-than, less-than, ampersand, and asterisk symbols as codes. To find all invoices with totals greater than $1000, for example, enter greater-than 1000 in the "Total" field on the Find Form. An asterisk placed before a find string locates those characters embedded within the field. You can find all records from Texas by entering "*TX" in the "City and State" field. An ampersand placed before a find string gives you all entries that do not match your search criteria.

You can also find a range of values, such as all records where "Total" is between $1000 and $5000. FILE-TALK assigns each record a unique number, and allows you to limit your search to a certain range of record numbers. So you would sort the records by "Total," check to see which record number starts the $1000 entries and which record number ends the $5000 entries. You can then define the upper and lower limits on the record numbers to be used as a search criteria.

FILE-TALK also makes it easy to systematically change information in your database. Press R from the Record menu and enter the Replace menu. You are presented with—surprise—your Replace Form. The data you enter in any field can then be substituted for the information in that field in a specific record, or globally in all records. The replace function can be limited by any or all of the search criteria listed above.

Printing

FILE-TALK records can be printed to voice, screen, braille or inkprint printer, or to disk. There are two types of printing. There is a straightforward "screen dump" printout which presents the file form or field names along with all of the data from the record or records being printed. There's also a special format-controlled printing in which specific fields, as well as constants, can be directed to any line or column position on the page. You can limit the records printed with the search criteria discussed above. To use all the power of the formatted printing, you need to use a word processor program. FILE-TALK makes it very easy to use files from Computer Aids' own word processor, WORD-TALK. However, it's also possible to use BEX or ProWORDS to help design printer formats.

Press P from the Main menu and you are in the Print menu. From the Print menu, Press S for printer Setup, and you can choose from three general printing formats: Labels, Reports, or Templates. FILE-TALK can print standard one-across mailing labels, and also label sheets with two labels on a line.

The Report selection prints data in table format, where selected fields from each record are presented on one row. Numeric information is right-justified and a total of all numeric fields can be computed and placed on the last line of the printout. Titles, running headers and footers, and page numbers can be either left- or right-justified, centered, or staggered from one page to the next.

The Template format can be a powerful mail merge. You can freely intermix text that's always printed and varying information from your database. For example, you could set up a form letter template that prints your name and address and several stock paragraphs. You position the field names, surrounded with special merge markers, where you want FILE-TALK to supply data from your database.

Using Files from Other Programs

Before there was FILE-TALK, there was INFO, Computer Aids Corp.'s DOS 3.3-compatible database. It is possible to convert INFO files to Apple DOS 3.3 textfiles, and then to use the DOS 3.3 to ProDOS conversion program (supplied on the FILE-TALK disk) to convert these files to ProDOS. The DOS 3.3 to ProDOS conversion program also makes it very easy to move information between BEX and FILE-TALK; you write BEX chapter(s) to a DOS 3.3 textfile, then use this program to convert the textfile to ProDOS.

FILE-TALK files can also be converted to ProDOS textfiles (which BEX can read directly) in one of two ways. Specific FILE-TALK records can be printed to disk using any or all of the search criteria and printer formats discussed above. Alternatively, the entire file, one line per field, can be "exported" to disk in a matter of seconds. This same one-line-per-field format can also be "imported" from a ProDOS textfile into FILE-TALK. As long as you place your <CR>s at the end of each field, you can do FILE-TALK data entry in any DOS 3.3 or ProDOS word processor, and then "import" the data into a new or existing FILE-TALK file form.

Documentation

The FILE-TALK manual is well organized, concise, and quite easy to read. The program comes complete with a print, a cassette, and a disk version of the manual. A data disk containing numerous database files and printer formats is also included. The manual makes numerous helpful references to this information.

The FILE-TALK manual provides a thorough explanation of ProDOS utilities, and that's something that, up to now, has been hard to come by. In addition, FILE-TALK's ProDOS Utilities program has the clearest screen and voice instructions I've come across—a real improvement over FILER. You can format disks; copy and rename volumes; copy, rename, lock, unlock, and delete files, and more.

For a limited time, INFO owners can get reduced-price updates to FILE-TALK. In summary, I'm really excited about FILE-TALK. It's a powerful, well-thought-out program with features that I'm already using daily. Not only does it provide a functional working environment, but it has handy bridges to other programs I use.

TEXTALKER

by Larry Skutchan

(Reprinted from Apple Talk)

The American Printing House for the Blind, in cooperation with Street Electronics Corporation, developed and released a new version of TEXTALKER in October of 1986. Members of the Educational Research Department at the American Printing House state that the program was developed to more effectively suit the needs of the blind, increase efficiency, and make the program easier to use with software that was not specifically designed to be used with speech.

Dubbed TEXTALKER version 3.1.2, the program incorporates suggestions and ideas from several sources. APH staffers consulted an advisory committee, consisting of administrators, teachers, and users, to consider the requirements and features of the "ideal" speech access software. This procedure, combined with conferences with Street Electronics about the suggestions offered by users, built a clear picture of the desired program. (See, your suggestions do matter.) The resulting program dramatically increases productivity, adds additional commands and functions, and makes this popular access software easier to use.

Probably version 3.1.2's most interesting and time-saving feature is its ability to instantly quiet the speech with any keystroke. This means that as you use those familiar programs that contain menus you memorized long ago, you can now press the key of your menu choice, and instantly access that section of the program without having to listen to the entire list of menu options. ProDOS users know that programs like Apple Company's FILER and CONVERT desperately needed such a feature. In FILER, for instance, if you want to format a volume, you can execute the program and then immediately press the "V" for volume commands. Instead of hearing "Apple's ProDOS System Utilities," and so on, the speech is silenced by pressing the "V" and the next thing you hear is "Volume Commands." When you hear this, you can press the "F" for format. Instead of hearing the entire volume commands menu, you next hear "Format a Volume." DOS 3.3 users will note that such a feature is very useful in programs like FID. The experienced user, for example, who wants to copy a file from the disk in drive one to a file of the same name in drive two, can start FID and then press the "1." This eliminates the reading of the menu and alerts the user when the screen is displayed by pronouncing the "1."

This instant quiet feature is particularly useful and convenient for Applesoft programmers. Anyone who has been listing a program and attempts to stop the listing with a CTRL-C knows that by the time the speech is finished speaking the line, you have forgotten what you stopped for. The new quiet feature permits a programmer to press CTRL-C to stop a listing immediately. Note that this instant quiet feature also increases efficiency in other respects. Typing "Catalog" in DOS 3.3, for example, especially on a disk with several files, always seems such a waste of time. You must constantly wait for the next screen, press a key, then wait until the next full screen appears before repeating the whole process, often five or six times. By employing TEXTALKER 3.1.2, on the other hand, you might type the catalog command and immediately press another key, like the backspace. As soon as the catalog begins to speak again, you can repeat the procedure. In short, this immediate quiet feature gives you more precise control over the computer. Many programs, especially those not designed with speech in mind, become quite useful and even pleasurable to use with this method of dealing with extraneous information. It's difficult, in fact, to use other speech access software after experiencing this degree of user control.

In addition to the quiet feature, TEXTALKER now contains a repeat character filter. This filter prevents you from hearing hundreds of "****"'s in programs that use this type of border decoration. A new command controls the number of characters that will be pronounced before filtering takes effect. The repeat character filter only filters special punctuation characters so that the integrity of important material, like names and numbers, is preserved.

While the quiet feature and the repeat character filter add to TEXTALKER's convenience, the freeze mode adds to its flexibility. The freeze mode lets you actually stop a running program to enter the Review Mode. Earlier versions of TEXTALKER required the computer to wait for your input before entering Review; version 3.1.2 scans the keyboard during speaking to see if you are requesting a call to the Review Mode. This means that if you see a filename, for example, from a catalog command, you can freeze the computer while you enter Review

Mode and examine the name in detail. This is also useful for stopping the listing of an Applesoft program without actually pressing CTRL-C to stop it from BASIC. Perhaps TEXTALKER's ability to enter Review Mode while speaking is most significant because it provides another means of accessing programs that were not specifically designed for speech. Using this method of stopping the computer is much like using the CTRL-S, except that review is, of course, accessible.

The freeze feature came nearly as an accident. It was specifically installed into TEXTALKER to gain access to Review Mode when using a non-talking version of the SENSIBLE SPELLER program from Sensible Software of Birmingham, Michigan. Without this ability to review the screen the program was, at best, marginally useful to a blind user. TEXTALKER's freeze feature, however, makes it useful if not essential as a daily working tool.

Many of the more innovative features found in this latest version are in Review Mode. In the previous version, after pressing CTRL-L to enter Review Mode, TEXTALKER would wait for you to select a line and then would announce that line, for instance, saying "Line J." To actually hear the contents of the line, you had to press Return. Moving from line to line on the screen involved a similar procedure. In version 3.1.2, you hear the line immediately. And when you move to another line with the arrow keys, you hear that line immediately. If you discover that's not the line you want, you can press the arrow key again to instantly silence the speech and hear the next line you want.

Review Mode also supports a column mode now, which is used to examine material displayed in a tabular format. The program lets you set up and define up to nine different windows in addition to the normal "full line" mode. As you move from window to window, the program remembers the last window you used, so if you exit Review Mode, the next access leaves the audio review cursor in the last window you used.

Apple II+ users will appreicate the fact that the bug that prevented them from using Review in version 3.1 has been fixed; this bug caused many lines and characters to be spoken twice, which was annoying at best.

A few other improvements have been made. Version 3.1.2 leaves the volume online, which offers several advantages: first, the spell checker checks the file much more quickly, and second, the /RAM volume provides a handy place to store temporary files without having to worry about swapping disks. Apple IIc users with only one disk drive will appreciate this temporary storage place.

The ProDOS version of TEXTALKER now respects more critical zero-page memory locations, which means that more programs are likely to function with TEXTALKER (provided several other conditions are met). Finally, TEXTALKER no longer pronounces "Backspace" when the left arrow is pressed. This feature was added to version 3.1; progress sometimes means going back to the old way of doing things. Earlier versions of the program pronounced the character under the cursor when "Backspace" was used; so does version 3.1.2.

TEXTALKER version 3.1.2 is available from the American Printing House for the Blind in Louisville, KY. The catalog number to order TEXTALKER is D-89570. The program costs only $15.50. This price includes documentation in both print and braille, and two versions of TEXTALKER, one for use under DOS 3.3 and one for use under the ProDOS operating system. The manual is also supplied on the disk in the form of ASCII text files. A convenient, high-speed textfile reading program is also included on the disk.

SlotBuster II

by Joe Lazarro

GENERAL DESCRIPTION

Last year, I reviewed the original SlotBuster card for InCider magazine, and found it to be worth three stars. Since then, RC Systems has rolled out a major revision to their board, giving it close to a four-star rating.

A loaded SlotBuster II comes with many options: a clock, a serial port, modem port, parallel port, speech synthesizer, and a BRS wireless remote control port for the Apple IIe, II+, or IIgs computers. You can mix and match functions, so how much it costs depends on the options you select. Just to give you an idea, a configuration of the SlotBuster II, speech synthesizer, serial printer port and cable, and Talking Manual lists for $295.75.

The board can be bundled with print and talking manuals, printer connectors of all sorts, print and speech buffers of all sizes, and lots of ProDOS-based system utilities. It also allows your computer to interface with any Centronics or serial printer, plotter, modem, or other serial or parallel external device.

The SlotBuster II is larger than a normal interface card, bigger than the Apple Extended 80 Column card and can be installed in any slot except #3. The serial port, parallel port, and speech synthesizer have a large 64K buffer. The control codes used to operate the SlotBuster II's serial and parallel ports are nearly identical to those of the Apple Super Serial Card and Apple Parallel Card, making the SlotBuster II compatible with a wide variety of off-the-shelf software.

The serial and parallel interfaces can be turned on separately or at the same time, giving you the flexibility to print to two devices at once. You can easily adjust the serial port's baud rate and data format either by a Mouse-operated pull-down menu, or through Control-I commands. I like the fact that you can override the Mouse menu options with keyboard commands.

You can use the SlotBuster II's voice synthesizer with any word processing program, and have your work read aloud for proofreading. Simply print to the SlotBuster's port, making certain that the speech synthesizer is enabled. You can also send any control command sequence directly to your printer, simply by typing a CTRL-I-I. You can, with the aid of the Control-I commands or pull-down menus, select which mode the SlotBuster II will power up in: serial port mode, parallel port mode, BSR port mode, or speech synthesizer mode.

CHATTERBOX

I found the SlotBuster II's voice synthesizer an attractive feature because it is an automatic text-to-speech system with an unlimited vocabulary. The SlotBuster II's synthesizer is based on technology from Votrax Corporation, namely the SC02 voice chip. This is also a cousin of the chip used in the Mockingboard stereo music and sound effects synthesizer. By and large, the SlotBuster II's chip and algorythm work efficiently and cleanly, generating a metallic but understandable voice.

If you want to make your programs talk, the SlotBuster II is for you because it works just like a printer, except that this printer can speak all your work aloud. All you have to do is type a PR#S at the keyboard, or from within your Basic program, to turn on the SlotBuster II's voice. The text-to-speech algorythm will then intercept all Applesoft Basic Print statements and DOS messages and speak them aloud, while sending them to the screen or printer. The voice synthesizer has a 64K buffer, just like the printer ports. The SlotBuster II can also speak all Applesoft and DOS error messages, adding greatly to its basic utility.

RC Systems has also developed a program called SCAT, short for Screen Articulator, which is a screen-review system for the blind—giving us full voice access to the computer. SCAT will work with Applesoft Basic, and most Basic programs, with the ability to read and re-read the screen. The SlotBuster II's Speech Works program can also add a voice to Appleworks. Speech Works, bundled with every SlotBuster II, turns Appleworks's spreadsheet into a talking spreadsheet with a great deal of accuracy for data entry operators. At the time of this review, RC Systems is working on a "blind version" of Appleworks, which, according to the company, will make the popular Appleworks fully accessible to a blind user. I liked all of these features, and was even more impressed by the fact that a number of software companies, such as Computer Aids, Raised Dot Computing, etc., are designing talking software for the board.

The SlotBuster II is speech compatible with Apple DOS 3.3, Pascal 1.1, PRO-DOS, CP/M, and both forms of Apple Basic. However, the board cannot make Pascal speak effectively for a blind user. The speech is fully compatible with the Infocom series of text-adventure games. This software flexibility is possible because the SlotBuster II's speech rules are ROM-based, requiring no disk-based software or internal memory.

Compared to the Echo+, Cricket, Intex Talker, Echo PC, Votrax, and Mockingboard, the SlotBuster II holds its ground in some areas, and lags behind in others. On the plus side, the SlotBuster II is powerful because it has the ability to control so many devices; on the minus side, the SlotBuster II's voice chip is more primitive than the competition. The SC02 chip has a booming voice, mixed with a lot of "wow and flutter." The SlotBuster II's speech quality is on a par with the Mockingboard, in my opinion, but better than the Votrax. It does not seem as crisp as that of the Echo+ or Cricket.

On the other hand, the SlotBuster II does give you good control over its speech center. You can change the SlotBuster II's speech speed, pitch, and frequency, and you can change between whole-word mode or letter mode. The silence command is nice, letting you instantly shut off the voice from any mode without disturbing the program you're running; this is done by simply issuing a CTRL-I-R. You can also kill the speech buffer by holding down CTRL-Reset for about two seconds, but this also kills most programs. The ability to nondestructively silence the speech with the silence command is very helpful, especially with long-winded menus and text. If you are using the SlotBuster II's speech synthesizer for blind applications, you will appreciate this feature since it saves you running time. All in all, the speech subsystem is cleanly implemented, allowing for a lot of flexibility.

DISK UTILITIES

The SlotBuster II comes bundled with a standard Apple ProDOS disk containing a series of useful utilities, allowing you to greatly increase the usefulness of the board. You do not need this disk to operate the serial or parallel ports, or to make the synthesizer speak, but it does extend the usefulness of applications. These utilities include: a Spanish pronunciation rule table, a character suppression system, an auxiliary rule table for generating user-defined speech rules, a speech rule table loader and compiler, a graphics dump utility for your printer, a self-test mode, and an extensive speech tutorial. These utility programs are well implemented and double as a manual, showing how to control the board from within Basic programs.

TALKING DOCUMENTATION

The SlotBuster II manual is very complete, offering many good examples. The documentation in general is impressive, and I appreciate the willingness of RC Systems to supply me with text files of the manual as well. The company also offers a talking manual, which is a menu-driven verbal assistant and very helpful for blind users, or anyone interested in speech synthesis. The SlotBuster II's manual tells you how to quickly set up the board and use its many interesting features.

BSR REMOTE CONTROL PORT

The SlotBuster II has a remote control BSR port built right into the card that lets you control room lights, small appliances, and other electronic equipment through the Apple keyboard. Believe me, it's exciting to be able to computerize your whole house! If you fully utilize the SlotBuster II's speech and clock options, you can have an automatic, talking home. To do this, you must own a BSR X-10 command console to put this feature to work in your home, office, classroom, shop, or elsewhere.

The SlotBuster II's BSR port can operate from a distance of up to 15 feet from the command console. The BSR port is activated on the SlotBuster II in exactly the same way the printer ports and synthesizer are, using the CTRL-I-30 change port command. The BSR port can be used simultaneously with all other SlotBuster II's ports without interfering with them—in other words, you can command your household lights and appliances by typing at your Apple's keyboard or by writing a program to do so when you're not at home.

FINAL COMMENTS

The SlotBuster II is an excellent, multi-function card for the Apple IIe, II+, or IIgs. It's easy to operate and features almost everything you could want in a single board. The serial and parallel ports work perfectly, and the speech synthesizer has a clear, though robotic, voice quality. The ROM-based instruction set allows the SlotBuster II to be compatible with most Apple applications programs, operating systems, and programming languages.

The fact that the serial and parallel output ports, as well as the voice synthesizer, are fully buffered is a particularly nice feature. And the addition of a two-way modem in this latest version is a significant improvement; this modem port, according to the company, functions like a customary Apple Super Serial card. Software support for the SlotBuster II is good, as is the support for BEX from Raised Dot Computing, and for Word-Talk and File-Talk from Computer Aids Corporation. In conclusion, the SlotBuster II is a good investment for your Apple.

64 Reader

by Holly Turri & Jim Wantz

GENERAL DESCRIPTION

If you're looking for the Volkswagen of computers—durable but cheap—look no further. The 64 Reader is a hardware/software package that turns the Commodore 64 computer into a talking micro, and all for the low price of $575—computer included! Add a modem and dot matrix printer, and the price is still around $1100. This is one half to one third the price of other talking systems but without sacrificing the equivalent in basic functions.

It's true that you will sacrifice the ability to use some commercial programs: roughly 65% of the off-the-shelf software for the Commodore will work with speech, including games, word processors, terminal programs, and databases. Heavily protected software won't work, although a new cartridge has been developed which should help resolve this problem.

The 64 Reader was developed by Eric Bohlman, founder of Protocon Accessability. It consists of a speech synthesizer, keypad, and disk and is very reasonably priced at $225.

SPEECH

The synthesizer that comes with the 64 Reader package contains a British-made chip, giving the voice a slightly British accent with no inflection. The synthesizer is housed in a metal box, with two knobs on the front and a headphone jack and connector for the computer in the rear. The front controls are on/off/volume and speech rate controls. The rate can be changed from very slow to fast. The faster the speech, the higher the pitch . But you will never get the rapid speech rates of an Echo II+, for example.

The synthesizer connects to the cassette port of the Commodore 64, so you can only use disk-based software. There are many word processing programs that can be used, including the popular Omniwriter. Many text adventure games work well, too. And, unlike the Apple, the Commodore 64 runs Infocom adventure games, such as Deadline and Zork, right from the box. We've also used public domain databases successfully.

REVIEW FEATURES

There are two modes of operation with the 64 Reader: immediate, which is known as interactive mode in other programs, and secondary, which is similar to Review Mode in that the screen is frozen for review. The 64 Reader, however, offers some of the same review features found in more expensive programs, while in immediate or secondary mode. You can read the screen a line, word, or character at a time. You can have punctuation spoken or not; spaces spoken or silenced; keyboard input spoken letter by letter, or word by word. Uppercase letters are indicated, as well as reverse video, graphics, and highlighted text.

Another clue to screen layout is given by a pause at the end of each line, which is a handy feature for programmers. You can also control the silence of spaces between words and greatly increase the reading rate. Tabs can be set and columns read.

Another nice feature of the program is a punctuation filter. The punctuation filter screens out extraneous graphics characters that appear, for example, in bulletin boards. Many materials have a border comprised of equal signs, which drives you crazy if you have to listen to equals repeated ad infinitum. With this program, after four repetitions, it announces the number of times the character appears, *e.g.*, equals repeat 37.

You work with two cursors with this program: an audio (read) cursor for review and a video (write) for use with the application program. Movement of the audio cursor is controlled using the keypad that comes with the package. 64 Reader's 24-key keypad plugs into one of the Commodore's joystick ports. The keys are arranged as follows: one row of five across the top, another row of five down the righthand side, two rows of five running across the bottom, and a diamond-shaped, four-key cursor control array on the left. Using various combinations of these keys you can read the entire screen.

The nice thing about this separate keypad is that it frees up the keys on the computer to be used for the application program, as they are intended to be used. Many of us have been frustrated by the fact that some keys necessary for speech control conflict with keys needed to perform functions in the application program itself. With this program, all speech functions are controlled from the keypad.

You can review the screen using the audio (read) cursor, and then bring the video (write) cursor to the same location with one keystroke on the keypad. There is also a key which gives the location of the video cursor on the screen, and you can relocate the audio cursor to any position on the screen with just a few keystrokes.

SPECIAL FEATURES

We have already mentioned the positive feature of having the speech controls on a separate keypad.

Protocon has just come out with a cartridge which sells for $75 and takes the disk functions out of the memory locations that conflict with copy protection schemes. In plain English, with this cartridge, you can run about 90% of the commercial software for the Commodore. The cartridge goes in the cartridge slot, which is sometimes referred to as the game port, and the voice speaks automatically when the computer is turned on. This cartridge-based speech has all of the disk-based speech functions, plus a few more.

The cartridge offers a little more flexibility in terms of review, through what are called "some" or "most" key functions. This means you can instruct the speech to announce some or most punctuation by making a list of the punctuation you don't want spoken.

The cartridge also comes with a disk containing a program that allows you to personally configure the way the program will speak. You must first load the program from the disk into the computer. You then configure your speech preferences by making Configuration Files, which can be saved for later use. Some of the features you can include on a Config File are: 1) some or none punctuation mode; 2) tab settings and columnar specifications; 3) inter-word and inter-line pauses; 4) pronunciation modes for spaces and lines; 5) keyboard and immediate output settings; and 6) character set interpretations.

The 64 Reader Configuration program also enables you to customize the punctuation that you don't want spoken, and save these specifications on a file. This is accomplished within the Config program itself.

The Commodore has a keyboard buffer inside of it, which means you can type ahead of the speech. This is great for fast typists and for when you don't want to wait for prompts before making menu selections.

A final special feature of the 64 Reader package is a wonderful terminal program called Uniterm. It has a 40K-character capture buffer, and you can easily edit text files with the built-in word processor. The program supports autodial modems, and has four protocols for uploading and downloading material. Plus, you can get into the telecommunications business cheap: 300-baud Commodore modems go for $50, and the autodial models are just under $100.

DISADVANTAGES

Like the Volkswagen, you don't get enormous power on the low end of the market. The Commodore has a 64K memory, which means it won't handle some of the more sophisticated programs that require more memory. Also, the disk access is slow because the data goes to the disk drive serially. And, the speech is slow, too.

Finally, because it is a home-based machine, there aren't many serious business programs, as there are for the Apple or IBM PC computers.

FINAL COMMENTS

The 64 Reader has finally placed a truly low-priced computer within the reach of visually impaired computer users. No, it doesn't have the power or sophistication of more expensive models, but it works and can give you exposure to computer functions until you are ready to move up. Although some computer snobs think it's pretty funny, you can purchase the Commodore at most Sears, K-Mart, or Toys-R-Us stores, which is a nice convenience if you live in an isolated area with few or no computer stores.

WORTH MENTIONING

Rapsheet

by Al Gayzagian

If you've been thinking about using a spreadsheet, you should consider writing out a check for $65 and sending it to Computer Aids Corp., for a copy of Rapsheet. What you get for your $65 is a disk containing the program, documentation (in print, on tape, or on disk), and sample spreadsheets, as well as a cassette tutorial to help you get started.

Rapsheet is modeled after Lotus 1-2-3, although it doesn't offer anything like the number of features that Lotus offers—at 5 times the price! As spreadsheets go, it's small with only 24 columns and 88 rows for a total of 2,112 cells, each containing text, numerical data, or formulas. Despite this size limitation, Rapsheet can be used to set up and track budgets, business expenses and income, and a variety of other functions.

You can move to any cell, read down a column or across a row, translate formulas to their calculated values and vice versa, and apply them to your data formulas, which can range from very simple to rather complex. With a little imagination, you can expand the spreadsheet's coverage by using the results from one spreadsheet as the opening entry for another.

Some of the things you can't do with Rapsheet that you can with Lotus 1-2-3 are copying and moving formulas and invoking such built-in functions as calculating net present values, internal rates of return, and many more things that would be nice, but would cost more than $65. Rapsheet can, however, perform summations, averages, and various other functions depending, of course, on how good you are at dreaming up the right formulas.

One complaint I've heard about Rapsheet is that it talks too much, as you move from cell to cell. Fortunately, you can kill the speech with the Control-X on the Apple with the Echo, or whatever does it for you with the IBM screen reader you use. While Rapsheet can do some useful things for you, as indicated above, perhaps its real value is that, for a modest price, you can find out what spreadsheets do and how they might benefit you.

Sensible Speller

by Larry Skutchan

(Reprinted, in part, from BAUD)

Sensible Software, as many of you know, released a talking version of the popular SENSIBLE SPELLER for ProDOS last year. (SENSIBLE SPELLER compares word processor documents against a disk-based dictionary to catch your typos and misspellings.) Many of you ordered it, and many of you were disappointed. I, too, ordered the program and, especially since I was using an Echo II, was disappointed. The program worked only with the Echo+ using the software that came with that synthesizer—this is, there was no review capability.

To make a long story short, I started hacking around with it and early in 1986, I approached both the American Printing House for the Blind, and Chuck Hartley, president of Sensible Software, about making a new version of the speller, SENSIBLE SPELLER: TALKING APH EDITION.

After some correspondence with Mr. Hartley, and a few trial versions, I knew we had the program we wanted. Mr. Hartley installed the new TEXTALKER program onto the SENSIBLE SPELLER disk, re-wrote some sections of the program to make the menus a little less talkative, and fixed that irritating problem with TEXTALKER's access to the keystrokes. The result is a program that is as nice as using a program written especially for speech synthesis, and at an affordable price.

VERSIONS AVAILABLE

Many of you bought the older version of the speller. You probably received an update notice from Sensible Software. Get it; it's worth the $15. Those of you who have been waiting, now is the time.

There are two versions of the talking SENSIBLE SPELLER. One of them, SENSIBLE SPELLER: TALKING APH EDITION, incorporates the above features and comes with TEXTALKER version 3.1.2 on the disk, and a cassette version of the manual with an addendum designed to explain special speech features. The other version, TALKING SENSIBLE SPELLER, includes the shorter menus and is, indeed, a big improvement over the original version. I cannot speak for its overall quality, as I have not seen it.

DESCRIPTION

The SENSIBLE SPELLER checks your word processor documents for words that do not match with one of the over 80,000 possible words stored in its disk-based dictionary. If the speller doesn't recognize your word, you have several choices: you can add the word to your dictionary, especially if it is your last name or the name of your street; or you can ask the speller to suggest other possible spellings of the unrecognizable word. If you request the latter, the speller will show you eight possibilities and, incidentally, it generally shows you the correct word first.

To replace the misspelled word, you just press the letter of the word it suggested. Of course, you also have the option of simply changing the spelling of the word yourself, in the case of typos.

You can also choose to look up words using wild card characters. You could, for instance, find "sensible" by entering "s=ble." The "=" is a wild card that tells the speller to replace the "=" with an undetermined number of characters. This search command would list all the words in the speller's dictionary that started with "s," had some characters in the middle, and ended with "ble."

WHAT YOU GET

The SENSIBLE SPELLER comes on a protected, 5¼" floppy disk. A back-up is also provided. While many of you know that copy protection is nothing but a pain to the average, honest computer user, Sensible Software has taken a sort of "I'll meet you halfway" attitude and provides a means of moving the speller to a hard disk or a 3½-inch disk. The speller comes with a disk-based version of the Random House dictionary. It comes in two sections—one on each side of the dictionary disk. The dictionary disk is not protected.

The first section of the dictionary contains 43,000 of the most frequently misspelled words. The second part of the dictionary provides an additional 30,000 words. You may, if you have the disk space, merge the two together, but I have found that in order to keep the dictionary size as small as possible, it is better to simply add the words that you use which are not already in the main dictionary.

You can order three additional dictionaries from Sensible Software, including Black's Law Dictionary containing 25,000 legal terms; Stedman's Medical Dictionary, an excellent addition to any transcriber's library, containing 45,000 medical terms; and a technical dictionary with words from a variety of fields, including astronomy, physics, computer science, and geology. Each is available from Sensible Software for $39.93.

DRAWBACKS

The SENSIBLE SPELLER, on the whole, is a powerful and useful program. Frankly, I don't know how I got along without it. But there are some minor problems, especially if you don't use a hard disk, a /RAM expansion kit, or a 3½" disk. Using it with an Apple IIc with one drive doesn't work well, either. In fact, Sensible Software does not recommend using the speller on a one-drive system.

While checking a document for misspellings can be practical on a one-drive system, merging dictionaries is not. And since the size of the dictionary is over 200 ProDOS blocks, the disk access time can become annoying, although it's still quicker than looking up the word in a paper dictionary. You can, of course, decrease this access time tremendously by copying the speller's dictionary to an enlarged /RAM volume or to a dictionary on your hard disk. The speller really flies on an Apple IIgs, running at the fast speed with the dictionary in /RAM 5, another RAM drive available on the IIgs.

ORDERING

The SENSIBLE SPELLER is available from at least two sources. The normal TALKING SENSIBLE SPELLER is available for $150 from Sensible Software. The SENSIBLE SPELLER: TALKING APH EDITION is available from The American Printing House for the Blind, catalog number D-78000, for $94.13.

THE BLACKBOARD

The bane of Apple users who require speech output has been the lack of access to off-the-shelf software. Now comes The Blackboard, a product that professes to give blind users access to any, non-graphic software right off the store's shelf. The Blackboard consists of a card and a footswitch, and is described as an "intelligent serial port." The card fits into slot #3 of the Enhanced Apple IIe computer with 80 columns. It also requires an Echo GP or PC, Votrax PSS, or DECtalk synthesizer. The foot pedal is used to enter Review Mode, whereby keystroke commands control voice output and cursor movement.

The Blackboard, including the card, foot pedal, and connector cables, sells for $995. Documentation will be in print and on cassette. For further information, contact Michael Goren at Summit Computers.

APPLE PRESENTS APPLE

Even a four year old could get started on an Apple computer, thanks to the Talking Apple Literacy Kit (TALK) from the American Printing House for the Blind. The kit comes in two versions: one for students and one for teachers. TALK gives both children and adults a tactile, aural, and visual experience getting acquainted with the Apple computer with speech.

To use TALK, you need an Apple IIe with at least 64K of memory, and an Echo II or Echo+. The Teacher's Kit costs $81.68 and the Student's Kit is $43.57 from American Printing House for the Blind.

AUTOMATED FUNCTIONS, INC.

A new company, Automated Functions, Inc., is kicking off with several new and exciting products. TRAVEL TALK is a portable talking computer that enables a blind user to create and edit documents, take notes in meetings or class, quickly retrieve text, perform math calculations, retrieve information from computer databases, and much more. TRAVEL TALK is a complete programmable computer with speech electronics all in one convenient unit. Another product is a Battery Operated Speech Synthesizer—BOSS—that turns any battery-operated portable MS-DOS computer into an on-the-go talking computer. BOSS is compatible with most screen reading programs, and runs for up to 20 hours on a single charge; BOSS can be powered from an AC outlet.

TALK-TO-ME TUTORIAL

TALK-TO-ME TUTORIAL is a friendly introduction to MS-DOS computers written by Doug Wakefield, president of Talking Computer, Inc. of Virginia. This three-hour cassette series is team taught by Mr. Wakefield and his "Mechanical Max" talking computer, or DECtalk. Topics covered include: touring the keyboard; formatting, copying, and preparing working diskettes; advanced file management; creating and using DOS directories on hard disks; using EDLIN to create AUTOEXEC.BAT files; and an index of important DOS commands. The tutorial sells for $69, although quantity and agency discounts are available, as well as a sampler cassette which will be sent free if you ask for it. TALK-TO-ME TUTORIAL is an ideal introduction for the visually impaired user.

ABOUT THE CONTRIBUTORS

(*All of the contributors are visually impaired users of the products they reviewed*)

Don Breda has recently accepted a position as Technical Training and Support Specialist for Perkins Project with Industry in Watertown, Mass., where he will train and offer technical support to people on the job. He also works as a consultant to companies and individuals seeking advice on computer access.

Brian Charlson trains visually impaired people in computer access at the Carroll Center for the Blind in Newton, Mass., where he has trained over 200 people in areas ranging from computer aptitude to specific job application access. He is vice-president of the Bay State Council of the Blind.

Curtis Chong works as a systems programmer with IDS Financial Services in Minneapolis, Minnesota. As president of the NFB in Computer Science, he has numerous opportunities to evaluate a range of screen review hardware and software. Several reviews in this book were excerpted from a presentation he and Steve Jacobson made at a recent Closing the Gap conference.

Olga Espinola is an Associate Instructional Developer for Honeywell Information Systems in Wellesley, Mass., where she programs in various languages to produce tutorials for the business community. She is a steady contributor to NBP's computer books.

Neal Ewers is the director of Inner-Vision, Inc., which offers programs and services designed to help all people recognize and use their voice and non-visual senses as tools for human growth and self-awareness. He has a graduate degree in Sociology and worked as an instructor at the University of Wisconsin before he founded and directed Dolphin Recording Company.

Al Gayzagian is Director of Corporate Analysis and Planning for John Hancock Insurance Company in Boston, Mass., and a Trustee of the National Braille Press. He is a long-time contributor to NBP's computer books.

Steve Jacobson has been employed for the past ten years as a system analyst at 3M Company in St. Paul, Minnesota. Jacobson spends his free time as a consultant in computer science for NFB, whose purpose is to demonstrate the feasibility of blind and sighted persons using the same computer software in an office setting.

Joe Lazzaro, a free lance writer, has been published in *Byte*, *Time Life Books*, *InCider*, *High Technology*, and various trade newsletters. He works as a rehabilitation engineer for the Mass. Commission for the Blind in Boston, Massachusetts.

Michael May is Marketing Manager for Finial Technology, a start-up company in high-end stereo products in Mountain View, California. An avid skier, Mike has been involved in over 100 radio, T.V., and print articles and interviews regarding both electronic aids and sports for the blind.

Sue Melrose works part-time for the Hadley School for the Blind as a Research and Development Specialist, from her home in Greenfield, Wisconsin. She helped develop the excellent correspondence course Hadley offers in computer access, and works as a private access consultant in her spare time.

Deborah Norling is the owner of Grassroots Computing of Berkeley, California, which sells computer equipment and a newly-released screen-reading program for the IBM PC called Video-Voice. She also provides computer instruction in her home.

Peter Scialli is a doctoral student in psychology at Fairleigh-Dickenson University. He will be moving soon to begin his psychology internship at the University of Virginia in Charlottesville, Virginia. He is also co-editor of BAUD magazine.

Larry Skutchan is the owner of MicroTalk software and a systems programmer at the Department of Educational Research for the American Printing House for the Blind, where he writes talking educational software for the Apple and coordinates the development of hardware for the Apple and IBM.

Jim & Holly Turri have his, hers, and ours computers, including an Apple IIe, Commodore 64, and IBM PC clone. Jim works as a Work Control Specialist for the University of Maryland, and is primarily interested in the technical aspects of computer operations. Holly, who works as an Information and Referral Specialist at the National Oceanic and Atmospheric Administration, likes to use her computer to provide "Dear Abby"-style counseling on a local bulletin board.

Jim Wantz is a meteorologist for the National Weather Service in Silver Springs, Maryland, where he specializes in the development of automated forecasting software; he programs in Assembly, Fortran, BASIC, and C.

MAGAZINES BY & FOR THE BLIND COMPUTER USER

APPLE TALK - *Quarterly, self-contained talking Apple DOS 3.3 disk, $15/year*
Jeff Weiss, Editor
3015 S. Tyler Street
Little Rock, AR 72204
(501) 666-6552 (6-9 p.m. CST, only)

BAUD - *Bimonthly, audio tape or print is $24/year; Apple disk is $30*
MicroTalk
337 South Peterson Avenue
Louisville, KY 40206
(502) 896-1288

RAISED DOT COMPUTING NEWSLETTER - *Monthly, in large print for $18/year; on audio cassette for $20/year*
Raised Dot Computing
408 South Baldwin Street
Madison, WI 53703
(608) 257-9595

SENSUS and Technology Update - *1 subscription includes the quarterly Sensus and the monthly Technology Update. Either print or audio $30 for visually impaired individuals; $37 for other individuals; $47 for organizations*
Sensory Aids Foundation
399 Sherman Avenue, Suite 12
Palo Alto, CA 94306
(415) 329-0430

Smith-Kettlewell Technical File - *Quarterly, $15/year in braille or large print; $8/year on audic tape*
Bill Gerrey, Editor
Smith-Kettlewell Eye Research Foundation
2232 Webster Street
San Francisco, CA 94115
(415) 561-1619

TACTIC - *Quarterly, braille, $4/year*
Clovernook Printing House f/t Blind
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